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Railway Age

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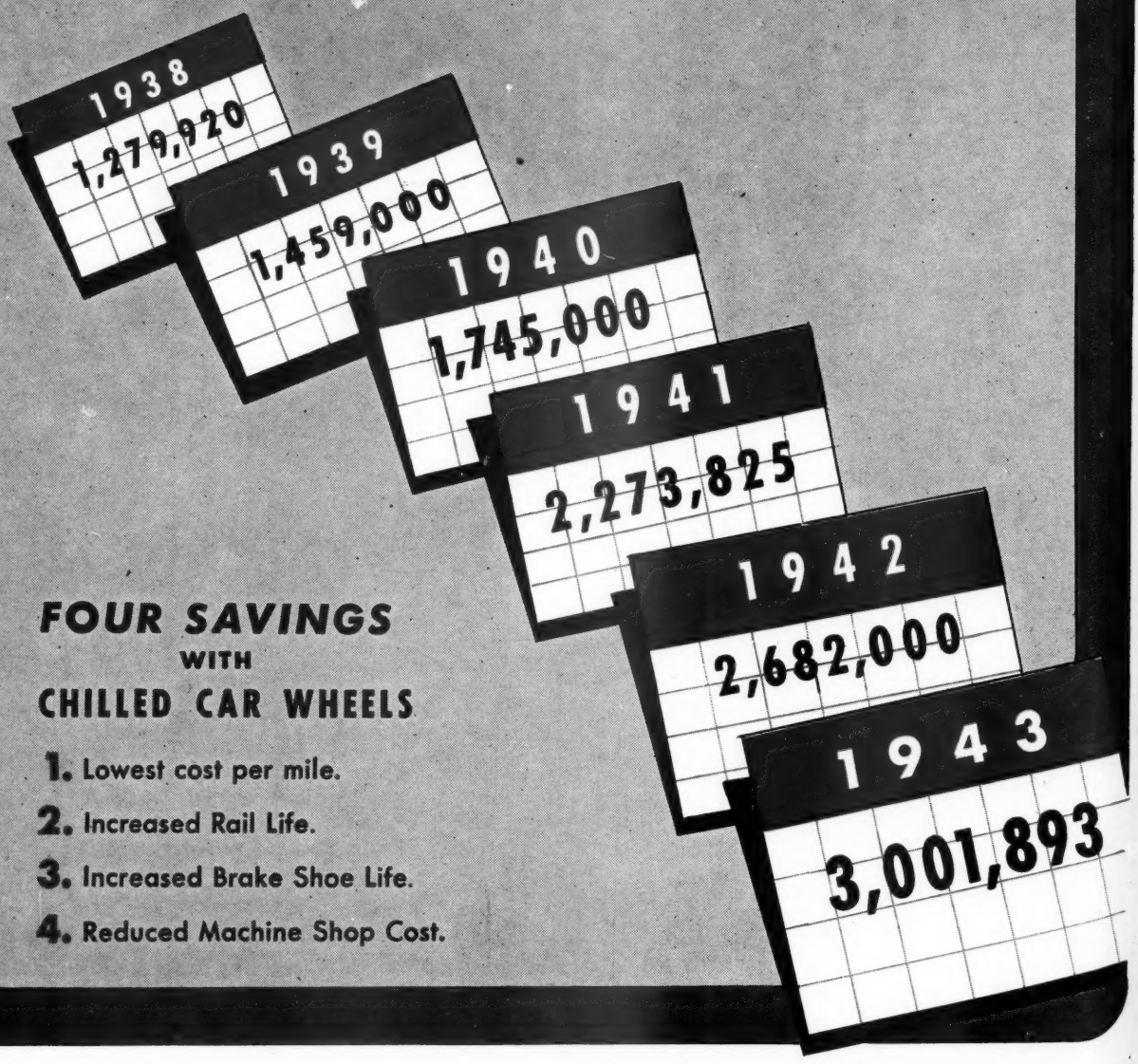

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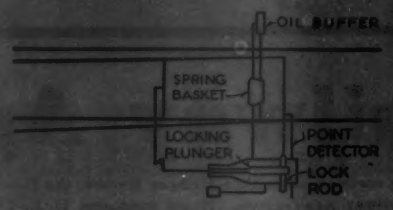
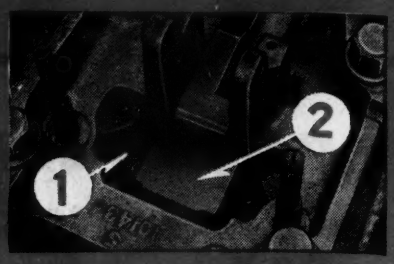
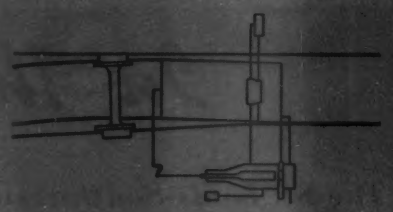
PRINTED IN U. S. A.

THIS IS WHAT HAPPENS . . .



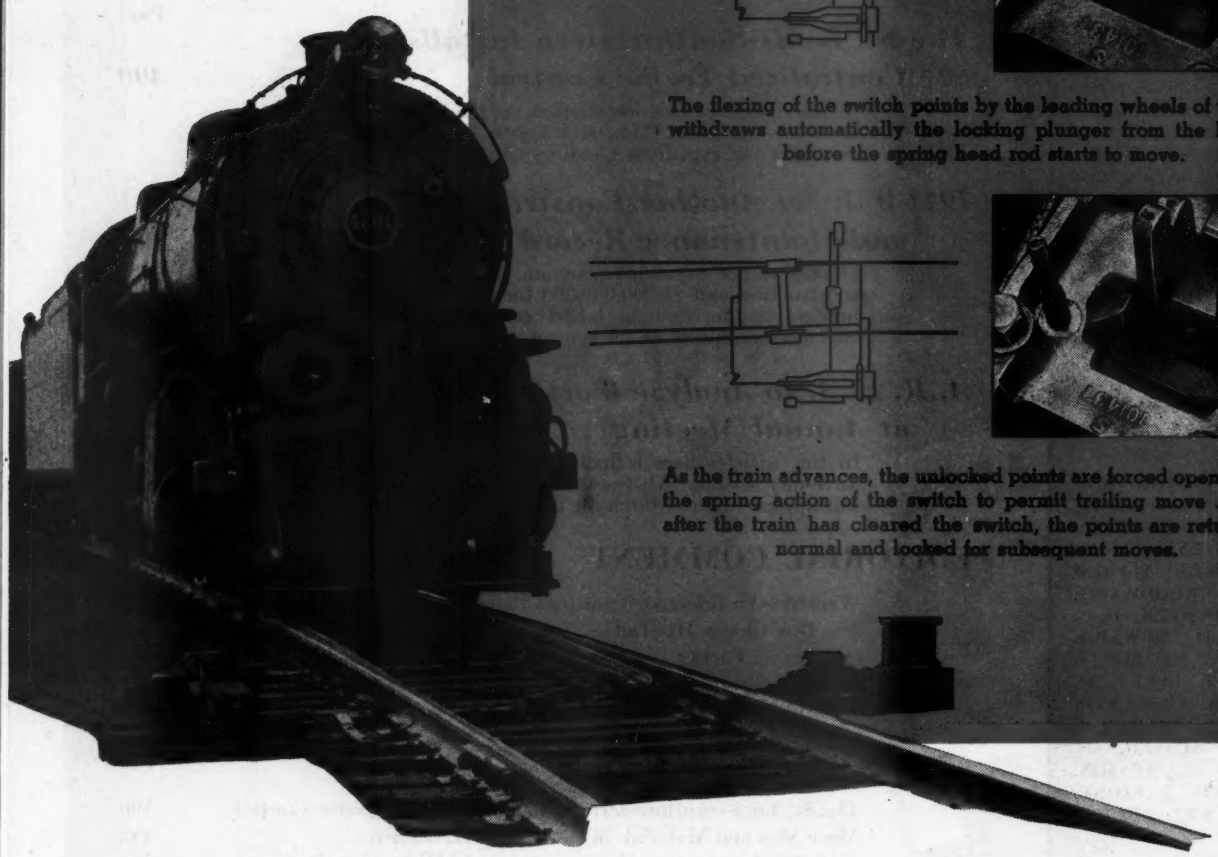


In the normal position of the spring switch, the standard lock rod (1) is locked by the locking plunger (2) of the Mechanical F.P. Lock.



The flexing of the switch points by the leading wheels of the train withdraws automatically the locking plunger from the lock bar before the spring head rod starts to move.

As the train advances, the unlocked points are forced open against the spring action of the switch to permit trailing move . . . and after the train has cleared the switch, the points are returned to normal and locked for subsequent moves.



. . . when a train trails a spring switch equipped with a "Union" Mechanical F. P. Lock!

FOR trailing moves against the closed point, the "Union" Mechanical Facing Point Lock retains all of the advantages of the spring switch. In addition, high-speed, facing-point, main-line moves can be permitted safely because the mechanism securely locks the switch points against movement from the impact and vibration caused by a passing train. A built-in circuit controller for signal control checks the positions of the locking plunger and the switch points . . . "Union" Mechanical Facing Point Locks also have reduced operating costs, decreased train running time and, in some instances, have effected fuel savings sufficient to pay for the costs of the installations in a surprisingly short time.

UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PA.

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

The Week at a Glance

MANPOWER DRIVE: A "manpower drive" to fill 100,000 current and impending jobs on the railroads has been launched by a newly-organized Railroad Manpower Mobilization Committee, which includes representatives of labor organizations, the A. A. R., the O. D. T., the War Manpower Commission, the Railroad Retirement Board, and the Office of War Information. The drive got under way with O. D. T. Director Eastman's warning that it must succeed if serious congestion is to be avoided; for "present manpower is being stretched very close to the limit."

●

F. B. I. RAID: The Federal Bureau of Investigation launched its attack on "black market" operations in railroad and Pullman accomodations when it moved into Miami, Fla., last week and arrested 31 persons, including 16 railroad employees. Head G-Man Hoover promised other Florida arrests, while he also keeps the situation in other parts of the country under survey. O. D. T. had sought F. B. I. aid in stamping out the scalping racket; and Traffic Movement Director McCarthy came through promptly with an expression of appreciation for the good clean-up job done at Miami.

●

INTERIM AMORTIZER: Some of the recent delay in placing further railway equipment orders has resulted from uncertainty as to the eligibility for five-year amortization of rolling stock contracted for between October 5, 1943, when the secretaries of War and Navy relinquished their former roles as certifiers, and December 17, 1943, when the certifying power was finally transferred to the chairman of W. P. B. The uncertainty was removed by March 2's Executive Order No. 9406, wherein President Roosevelt fixes things up in a way which should bridge the interim period.

●

BIGGER BUDGETS: Expanded construction and maintenance programs, setting up new records for expenditures, is our forecast for 1944. It is based on information received from engineering officers of a selected group of typical roads. Construction expenditures will be up 20 per cent from 1943's—to $325 million—while the outlay for maintenance will approximate $1.3 billion, the largest ever made. Generally the 1943 pattern will be followed, i.e., work will be principally on projects to remove bottlenecks at terminals and intermediate yards, to expedite train movements, and to facilitate the handling of locomotives. Details are given in one of this issue's illustrated feature articles.

●

A. A. R. RESEARCHER: President Pelley of the A. A. R. this week announced the appointment of Clyde Williams, director of the Battelle Memorial Institute, Columbus, Ohio, as A. A. R. technical consultant to advise the railroad industry on research matters. The appointment is in accord with a recommendation of the Engineering and Mechanical Research subcommittee of Judge Fletcher's Railroad Committee for the Study of Transportation. Maintaining headquarters at Chicago, Mr. Williams, an experienced researcher, will study railroad technical problems with a view to coordinating and organizing research relating to technological methods and processes.

●

OFF THE BEAM AGAIN: The principal wartime role of the Department of Justice's Anti-Trust Division remains one of diverting busy executives from the war effort to the defense of anti-trust actions against their companies. There was the attack on transportation rate bureaus and the Pullman case. And now comes a complaint against the New York Central, charging conspiracy to restrain competition in freight transportation through alleged control of the United States Freight Company and its affiliated forwarder and trucking companies.

●

EROSION: January was the eighth consecutive month in which the net earnings of the railroads showed a decline as compared with the previous year. The January results were still pretty good—estimated net income, $45.4 million, and net railway operating income, $82.8 million; but they were down, respectively, from January, 1943's $63 million and $105 million. And the rate of return for the 12 months ended with January dropped below five per cent, being 4.96 per cent as compared with 5.72 per cent for the 12 months ended with January, 1943.

●

C. T. C. CUTS DELAYS: The Cotton Belt has a busy 47-mile stretch of line between Illmo, Mo., and Dexter Junction. Used also by the Missouri Pacific, it is an important segment of both roads' through routes on which wartime traffic piled up to the point where something had to be done about delays due to timetable and train-order operation. An illustrated feature article herein tells how centralized traffic control provided the answer. Train movements are already expedited from 35 to 37 minutes and further time savings are expected as crews and dispatchers become more familiar with the new set-up.

●

TIME TO FOLLOW THROUGH: The Transportation Act of 1940's declaration of national transportation policy stated Congress' purpose to "provide fair impartial regulation of all modes of transportation" and to "foster sound economic conditions in transportation and among the several carriers." Despite that declaration, the railroads still remain the only agency with respect to which the regulatory power embraces the way as well as the vehicles. Rail *ways* may neither be expanded or abandoned without a showing of "public convenience and necessity"; but there is no such search for the broad public interest in the construction or abandonment of *ways* for motor vehicles or for barges. This confusing situation is discussed in the leading editorial which cites the nation's wartime discovery that none of its transportation agencies is dispensable —least of all the railroads, and calls for a follow-through by Congress to make its 1940 declaration effective.

A.R.E.A. MEETING: The American Railway Engineering Association is ready for its forty-fourth annual meeting to be held next week at Chicago's Palmer House. The program, keyed throughout to the war effort of the railroads, will be featured by speeches from prominent authorities on labor, materials, and post-war problems. Pre-convention articles in this issue cover the meeting's program, messages from National Railway Appliance Association officers, and descriptions of new and improved products of the manufacturers. Next week's issue will contain a complete report of the meeting's proceedings.

●

ANOTHER "IN LIEU" RAISE: Settlement of dispatcher wage demands on Eastern and Western roads has been reached via the "in lieu" route around the "Little Steel" formula. It was a mediation settlement, following the pattern of the recent non-op adjustment. The raise for the future, retroactive to January 1, is $12 a month or nine cents an hour. Back pay from February 1, 1943, to the end of last year will be $9.60 a month, or four cents an hour. Provision is also made for vacations with pay.

●

ORCHIDS FOR FULL COSTS: The Board of Investigation and Research has received from a member of its staff—Principal Transportation Analyst J. Frank Dixon, Jr.—a report on cost determinations applicable to for-hire motor transportation. In thus making his contribution to the board's general investigation of the relative economy and fitness of the various agencies of transport, Mr. Dixon, who came to B. I. R. from a Boston trucking company, was not content to rest with the development of his trucking-cost formulae; he went on to give the board the benefit of his views on competitive rate-making. An advocate of the "full cost" idea, he believes that regulatory authorities should exercise their minimum-rate powers to hold an umbrella over the truckers in cases where their profitable operations are threatened by the railroads' ability to promote fuller use of rail facilities by making some less-than-full-cost rates which attract otherwise unattainable traffic and thereby contribute to an improvement in railway net earnings.

●

SCALLIONS FOR I. C. C.: His faith in the full-cost idea is such that Mr. Dixon appears to believe that the I. C. C.'s classifications of carrier accounts should be designed for cost-finding alone. The commission, he says, "has not provided the proper leadership in the adoption of definite cost procedures"; while a carrier annual report in accordance with the present classification is "primarily an artificial log of statistics." Nullification of the commission's accounting rules would seem to be suggested when Mr. Dixon asserts that "there are limits beyond which it is neither practical nor profitable for the carrier to go in his efforts to meet the requirements." The report has been distributed by B. I. R. for the purpose of receiving comments "from interested and qualified parties."

GM DIESEL ROAD LOCOMOTIVES

are still

"Chalking Up Records"

Modern Locomotives "Strut Their Stuff!"

Eighty per cent of all road locomotives were required to handle traffic in October, 1941, while September, 1943, saw 86 per cent of all the 28,834 road locomotives in service, with only 488 stored and 3,519 in the shops for general repairs or on the waiting list. During September, 1943, when the *average* freight locomotive was running 3,546 miles and the *average* passenger locomotive was rounding out 6,500 miles, the *modern* steam locomotive was covering twice those distances. Some *newer* steam locomotives were running 24,000 miles a month in passenger service, while Diesel locomotives were chalking up records of 32,000 miles a month in passenger service and 12,000 miles a month on freight runs.

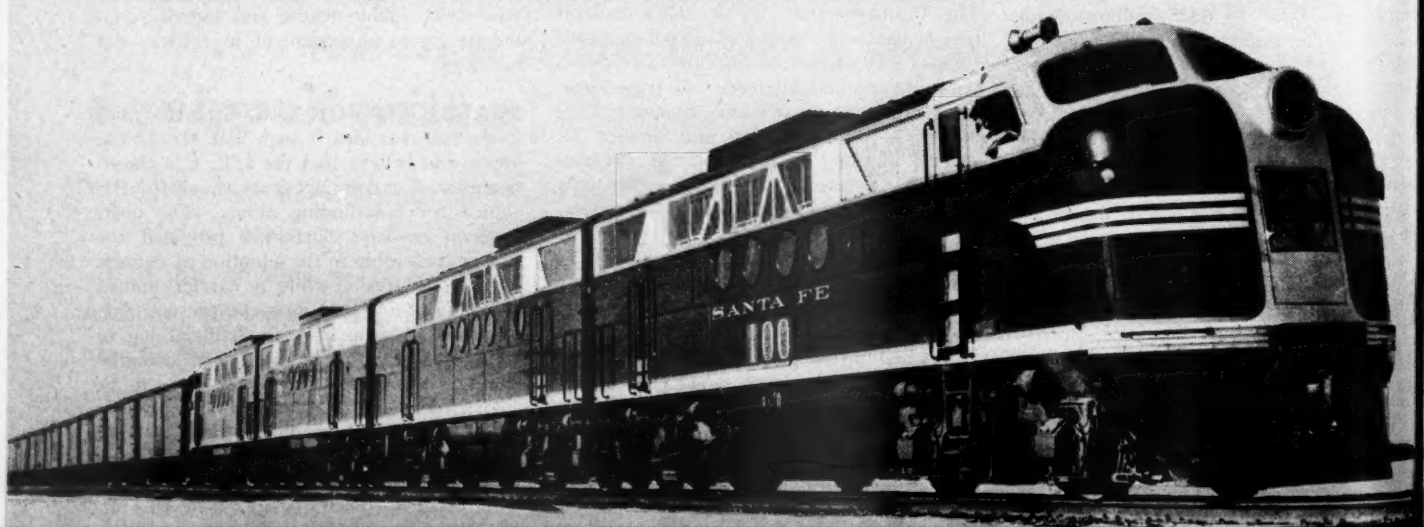
Excerpt from Editorial in Railway Age of January 29, 1944.

Santa Fe

GENERAL MOTORS LOCOMOTIVES

GENERAL MOTORS DIESEL LOCOMOTIVES, totalling approximately 1400 units in all classes of service, lead the field in POWER for greater tonnage and reducing or eliminating helper service . . . SPEED for faster schedules . . . High AVAILABILITY for record locomotive miles with minimum "time-outs" for servicing . . . ECONOMY in lower fuel costs, lower track maintenance, fewer fuel and water stops which speeds up schedules; smoother starts and stops resulting in greater protection to cars and lading and greater comfort to passengers.

★ ***LET'S ALL BACK THE ATTACK — BUY MORE WAR BONDS*** ★



ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION — LA GRANGE, ILLINOIS, U.S.A.

RAILWAY AGE

Wanted—an Effective Transport Policy

Back in 1939 when congressional hearings were being held on the legislation which eventually was enacted under the title of the "Transportation Act of 1940", C. E. Childe—who subsequently became a member of the Board of Investigation & Research established under this Act—presented testimony in opposition to regulation of rates of inland waterway carriers. He took the position, in substance, that Congress had appropriated the money to build these waterways and, by so doing, had implied that it desired them to be used—and could not, consistently, favor any action which might possibly cause traffic on waterways to suffer any diminution. Arguing from this same premise, Mr. Childe long opposed any measure which would afford opportunity to the railroads to meet competition of inland waterways. In his opinion, quite evidently, Congress wished the waterways to thrive quite without concern as to whether the railways would be able to survive such favoritism or not.

In the Transportation Act of 1940 Congress enacted a new declaration of policy in which it stated its purpose to "provide fair impartial regulation of all modes of transportation . . . so administered as to recognize and preserve the inherent advantages of each . . . and [to] foster sound economic conditions in transportation and among the several carriers . . . —all to the end of developing, coordinating and preserving a national transportation system. . . ."

Efficiency FOR VICTORY

Pursuant to that declaration of policy, Congress has given the Interstate Commerce Commission wide regulatory authority over all railways and over common carriers by highway and water. In the case of the railways, the regulatory power embraces not only the vehicles but the way as well. Rail *ways* may neither be expanded nor abandoned without a showing of "public convenience and necessity." There is no such search for the broad public interest in the construction or abandonment of *ways* for motor vehicles or for barges.

Right now there are pending in Congress measures appropriating enormous sums for the post-war expansion of waterways and superhighways—and such measures are not subject to the approval of the committees on interstate commerce (i.e., the committees which have to consider the welfare of all forms of transportation, and the public interest in preserving the "inherent advantages" of each of them). Instead highway appropriations are considered by the highway committees, and inland waterways by the rivers and harbors committees—none of which are given the responsibility of considering the public interest in the preservation of any agency of transportation, except the specialized form entrusted to them.

It so happens that common carriers do not predominate on either the highways or the waterways—so Interstate Commerce Commission regulation, directed by law to preserve the "inherent advantages" of all means of surface transportation, is powerless over the *ways* of any of them, except the railways, and over most of the vehicles, except those on rails.

It is small wonder that Mr. Childe was confused back in 1939. Mentalities, quite possibly of almost as high a caliber as his, are still puzzled; and, small wonder, because Congress itself has no one consistent policy. It votes to preserve the "inherent advantages" of all forms of surface transportation, and doubtless is fully sincere in that intention. But it then votes large appropriations for waterways and highways,

none of which has been analyzed and approved from the point of view of their "inherent advantages" to transportation as a whole.

Since investment in transportation plant in this country is now predominantly government investment, it is clearly impossible to expect orderly or consistent development of transportation until the preponderant and expanding part of the industry is brought under some control more appropriate to its economic importance than a mere show of hands—so far subject to little instruction save by special interests. Now that the nation has discovered that none of its transportation agencies is dispensable—least of all the railroads—the next logical step should be to revise public policy to accord with that fact.

The Dog Chases His Tail

Nothing could illustrate better the critical manpower situation existing on the railroads today than the comparison of two items which have recently appeared in the New York press, one in the news pages and the other in the classified advertising columns. The news announcement stated that the Office of Defense Transportation, acting "to provide train and engine crews to handle the record movement of war freight which is being offered to the railroad," authorized the Central Railroad of New Jersey to discontinue the operation of 68 trains daily in commuting service in the New York suburban area. In the help wanted columns the U. S. Railroad Retirement Board Employment Service advertises for switchmen, brakemen, telegraphers, boilermakers, carmen and helpers of all classes for service on the Southern Pacific. And, to add to the confusion, an address supplied to applicants is in Jersey City, N. J., the heart of the labor market for the C. N. J.

It is difficult to arrive at any conclusions concerning the action of this government agency in serving as a "raiding" medium in this particular instance. Certainly there can be no doubt of the need existing on the Southern Pacific for additional manpower, but it is questionable whether any good cause is served in attempting to encourage the migration of labor from a territory in which a shortage is known to exist. Early in January the C. N. J. announced a shortage of 1,057 men in the New York area and other roads faced real if not critical shortages of manpower in the same area. These needs have not been satisfied, although in the case of the C. N. J. the situation will be eased with respect to train crews when the reduction in train service becomes effective on March 12. Certainly the need on the Southern Pacific must be desperate when an attempt is made to recruit railroad personnel in such a labor market.

With estimates of officials of the Interstate Commerce Commission indicating that the labor shortage on American railroads is not less than 150,000 men, and may be considerably greater, all agencies involved in the recruiting of men or women to fill the vacancies face a task which might justify them in going to extremes to obtain results. But, when a government agency, presumably in possession of the facts concerning the national labor situation, attempts to meet a call for workers by advertising for them in an area where railroad service has been cut because of an existing labor shortage, it begins to look as if the bottom has been scraped out of the barrel.

Opinion vs. Facts

Old as it is, the steam locomotive has by no means reached a final stage of perfection. There are considerable differences of opinion among motive-power officers as to what constitutes the best proportions in a variety of relationships. These differences of opinion are indicative of aspects of design in which further developments are needed. For instance, what constitutes the best relationship between grate area, heating surface and cylinders? Within the boiler itself, to which should the most weight be given in locomotive design: the relationship between grate area and gas area through the boiler, or the relationship between grate area and heating surface? C. A. Brandt, the late chief engineer of the Superheater Company, in a paper before the annual meeting of the American Society of Mechanical Engineers in December, 1939, pointed out several other factors affecting the boiler output and performance, among which are the ratio of firebox heating surface to total heating surface and the hydraulic depth and length of flues.

Over the years a vast amount of steam locomotive test data have been accumulated. In few instances, however, have tests been planned for the purpose of determining the best values of these various relationships within sufficiently wide limits to permit the selection of the best values of these ratios on a basis of fact. Steam locomotive design is still in many respects a matter of opinion developed from a study of fragmentary data.

It is this situation which, no doubt, accounts for the wide variation in the proportion of locomotives of the same type built for essentially the same service on different railroads to which Brig. Gen. C. D. Young referred in his address on the selection of motive power, delivered at the last annual meeting of the A.S.M.E. before a session sponsored by the Railroad and Oil and Gas Power Divisions of that society and the Committee on Land Transportation of the American Institute of Electrical Engineers. If the facts were known, it is probable that one choice would be found as good as another within a considerable range of values for most of the proportions concerning which opinions now differ so widely.

Such a conclusion, once widely accepted, would go far toward making possible the agreement on standards advocated by General Young in order that lower first costs may be attained.

Artificial Seasoning Steps-up Tie Treatment

With the cross-tie situation getting tighter by the month, it is natural to look to every step in production for expedients to provide more cross-ties for the 1944 insertion programs. Much of the time involved in production and much of the success of preservative treatment depends upon the preparation of the timber prior to treatment. Practically all species require seasoning or conditioning, and satisfactory air seasoning long has been regarded as a primary requisite to successful impregnation.

Occasionally, in the face of unfavorable climatic conditions or to supply rush orders for replacements due to floods or fires, artificial methods of steaming and vacuum or boiling in creosote under vacuum have been employed to meet the emergency.

In casting about for ways and means to meet 1944 tie requirements, at least one large road will resort to the Boulton process for seasoning or conditioning, and arrangements are being made to treat the green red oak ties as they come from the woods. Under this method the moisture content of the ties probably will be reduced below the fiber-saturation point for the first inch or two from the surface, but it is to be expected that since both the heartwood and sapwood of green red oak have a very high moisture content, the interior of the ties will remain very wet. Nevertheless, creosote usually can be made to penetrate the wood satisfactorily, even with high moisture content. While there may be some doubt as to the life expectancy of ties conditioned and treated in this manner, the procedure may help solve the immediate problem of supply, but at the same time it reduces the potential stock of ties for 1945.

An economical, practical and efficient means of artificial timber conditioning long has been the dream of the wood preserving industry. One of the most interesting developments in this line has been the recent announcement of a new method by one of the Southern commercial treating companies, after several years of intensive experimentation. Conditioning and treatment have been carried on in a comparatively small cylinder measuring 3 ft. by 26 ft., with such good results that plans are now under way to equip at least one of the larger cylinders, at the same plant, with the necessary apparatus to undertake conditioning and treatment of green ties on a commercial basis.

While progress in this direction may be impeded, to a certain extent, by difficulties in procuring the necessary new equipment and materials, as well as adapting the equipment and the process to a cylinder with a volume 30 times as great as that of the experimental unit, current reports indicate that, with minor refinements, the process will be available commercially within the near future. Already, some 400 green red oak ties treated by the new process have been tested to destruction in a railway laboratory with encouraging results, and the process seems to hold much promise for the future.

Railways Constantly Changing

The railways are never static. They are changing constantly to meet the altered requirements of the industries whose traffic they carry. As such, they reflect the transition that is constantly taking place in national activities.

The effect of the present war on the transcontinental railroads affords an illustration. From their beginning, the preponderant movement has been eastbound. As a result, these lines have been so located and the grades have been so fixed as to favor the eastbound loaded movement and to balance it against the lighter movement westbound. Suddenly the war in the Pacific changed all this and the heavier movement is now westbound, completely revolutionizing the operating characteristics of these lines. Similarly the annulment by the O.D.T. of the 70-car train limit law in Arizona and the pressure to operate longer trains in furtherance of the war effort have given rise to larger construction programs involving the almost universal extension of passing and yard tracks to accommodate the longer trains for which locomotives of adequate power have long been available. Elsewhere, the construction of plant for the production of war materials has led to the conversion of many hitherto light traffic branch lines into busy lines of main track standards.

These changes have come with great rapidity in the last two years. They merely reflect in intensified form, however, the changes that are constantly taking place on the railways as they adapt their facilities to the changing needs of industry—to say nothing of the additional alterations in lines and facilities that are undertaken from time to time to increase the efficiency of railway operation.

It is because of this fact that a railway is never finished. And it is because of this fact that, even in the least active years, the expenditures for additions and betterments run into the hundreds of millions of dollars. Add to these outlays the expenditures necessary to make good the current wear and tear of traffic and of the elements, and the total looms large.

In years such as these through which we are now passing, when industrial changes are many and traffic is moving in record volume, it is not surprising that expenditures for roadway facilities reach large figures. As pointed out on a following page, they broke all records last year; equally important, they give promise of reaching still higher levels this year. Furthermore, even such record rates of expenditure fall short of the needs of these years but they are the largest that are possible when limited by the materials, and especially by the labor, that can be secured. For this reason, the accumulation of work that is deferred grows daily.

The St. Louis-Southwestern Installs Centralized Traffic Control

Project on 32 miles of single track and 15 miles of double track aids in handling up to 65 trains daily

As a means for expediting train movements and increasing track capacity on a line that is handling up to 65 trains daily, the St. Louis-Southwestern has installed centralized traffic control on 32 miles of single track and 15 miles of double track main line between Illmo, Mo., and Dexter Junction. Starting at Illmo, the north end, two main tracks extend 5.6 miles to Rockview, and starting at Dexter Junction, the south end, two main tracks extend 7.5 miles to Paront. Between Rockview and Paront there is 32 miles of single track with five passing tracks. The centralized traffic control includes semi-automatic signals for authorizing train movements by signal indication not only on the single track, but in either direction on both tracks of the two-track sections.

This 47 miles of railroad between Illmo and Dexter Junction is an important part of through routes of the Missouri Pacific, as well as of the St. Louis-Southwestern. Between East St. Louis, Ill., and Thebes, 135 miles, the St. Louis-Southwestern and the Missouri Pacific operate jointly over tracks of the Missouri Pacific. The bridge across the Mississippi river at Thebes, and the tracks between Thebes and Illmo, 3 miles, are owned jointly by the St. Louis-Southwestern and the Missouri Pacific. Between Illmo and Dexter Junction, the Missouri Pacific and the St. Louis-Southwestern operate jointly over the tracks of the St. Louis-Southwestern. To the south of Dexter Junction, the St. Louis-Southwestern extends through Paragould, Ark., and Texarkana, Ark., to Dallas, Ft. Worth, Tyler, Waco and other principal cities in Texas.

From the south end of the C. T. C. territory at Dexter Junction, the Missouri Pacific has a single-track line extending 25 miles westward to Poplar Bluff, Mo., where connection is made with the north-and-south direct main line of this road between St. Louis, Mo., and Texarkana, Ark., via Little Rock, Ark. Between St. Louis and Poplar Bluff, the direct line passes over heavy grades and, therefore, the bulk of the through freight in both directions on the Texarkana line is routed out of and into the St. Louis area via East St. Louis, Thebes, Illmo, Dexter Junction and Poplar Bluff.

Missouri Pacific freight trains between East St. Louis and points in Louisiana are also routed via Thebes, Illmo and Dexter Junction, but instead of being diverted at Dexter Junction, these trains also use the St. Louis-Southwestern tracks on 63 miles between Dexter Junction and Paragould, beyond which point the Missouri Pacific has its own lines. Thus at the north end of the territory, southbound trains are received either from the St. Louis-Southwestern yard at Ancell, or from Thebes via the bridge; while at Dexter Junction northbound trains are received either from the line from Paragould or from Poplar Bluff.

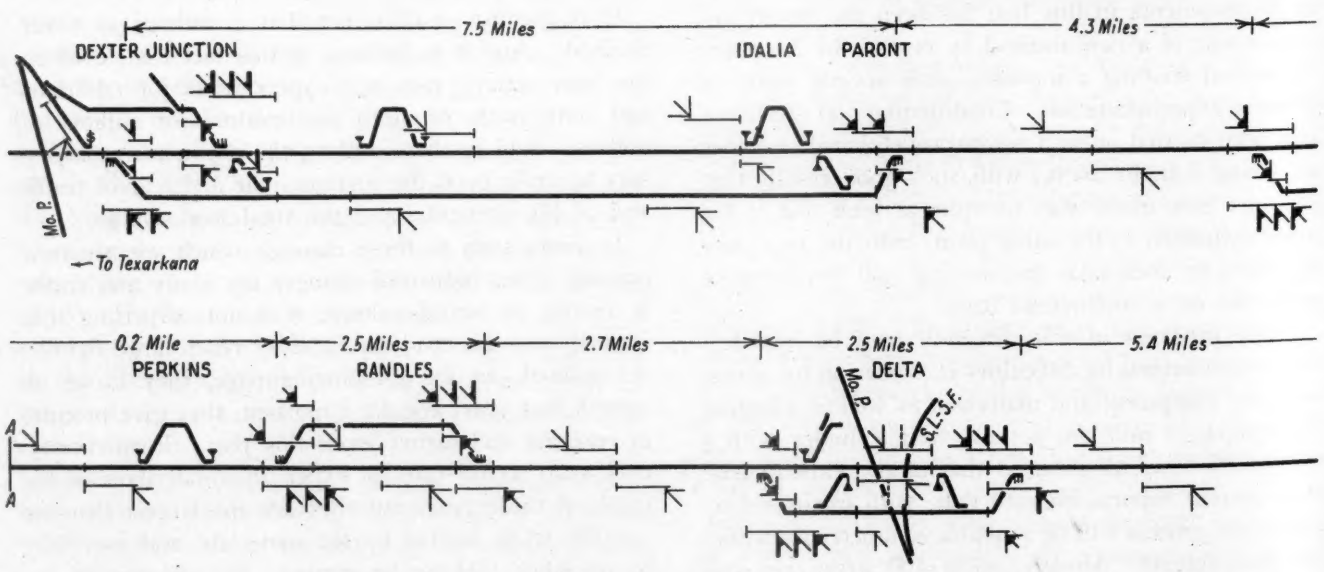
Up to 65 Trains Daily

Between Illmo and Dexter Junction the line is located in comparatively flat territory in the valley of the Mississippi river, the maximum ruling grade being only 0.3 per cent.

None of the curves are more than 4 deg., and, therefore, do not limit the maximum permissible speed of trains. The track is constructed with 112-lb. rail, treated ties and rock ballast.

The St. Louis-Southwestern operates one through passenger train each way daily over this territory, the remainder of the traffic, totaling up to 65 movements daily,

Track and Signal Diagram of the Centralized



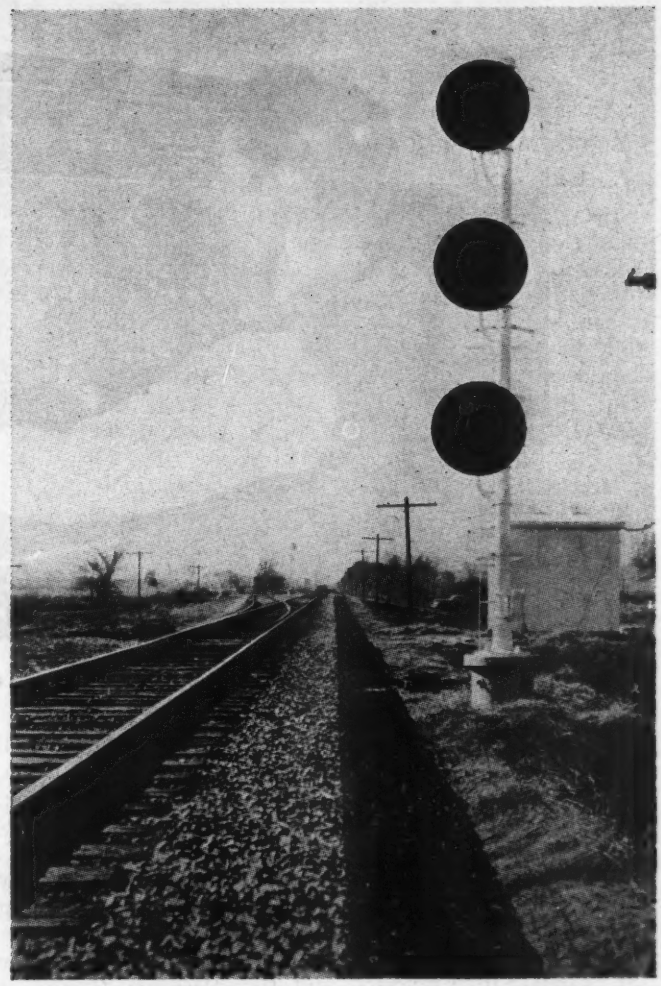
being freight trains. A local freight train is operated each way daily except Sunday. The St. Louis-Southwestern operates three scheduled through freight trains in each direction daily, and the Missouri Pacific schedules four through freight trains each way daily. Extra trains are required to handle the present traffic, so that on the average about 27 trains are operated each way daily, while in some instances 60 or as many as 65 trains are handled in a 24-hour period.

Prior to the installation of centralized traffic control, the train movements were authorized by timetable and train orders. In addition to automatic block signaling throughout, facilities were in service for operating certain switches. Power switch machines, controlled from the office at Illmo, were in service at the crossover and yard-lead switch at Ancell. The end-of-double-track switch at Rockview was, and still is, included in an interlocking at a crossing with the St. Louis-San Francisco. An operator at Dexter Junction handled the hand-throw switch at the junction between the Missouri Pacific and the St. Louis-Southwestern. Spring switches were in service at the north end of double track at Paront, and at the south end of double track at Dexter Junction. Lap sidings were in service at Randles and Avert. Operators at these laps, lined the hand-throw switches for trains to enter the passing tracks, and the trains could head out through spring switches at the far ends.

Serious Delays Necessitated C. T. C.

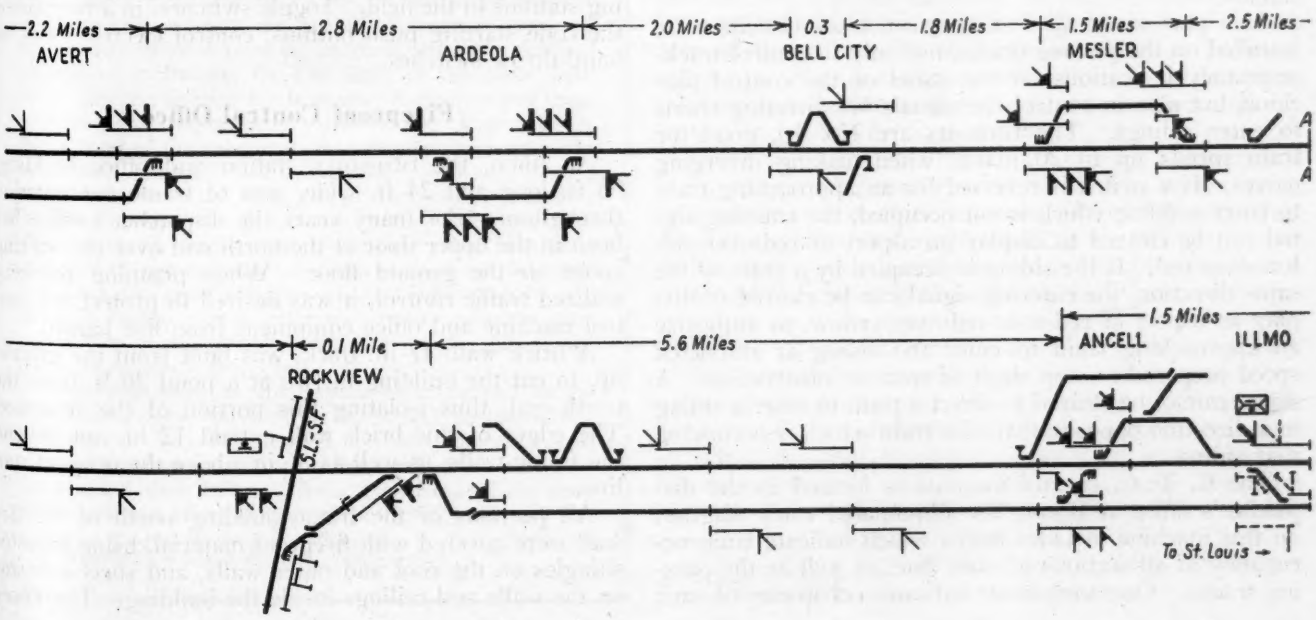
As the number of trains increased due to the war time traffic in 1942, the delays due to the timetable and train order operation became so serious in this Illmo-Dexter Junction territory that something had to be done quickly. A decision was made, therefore, to install centralized traffic control.

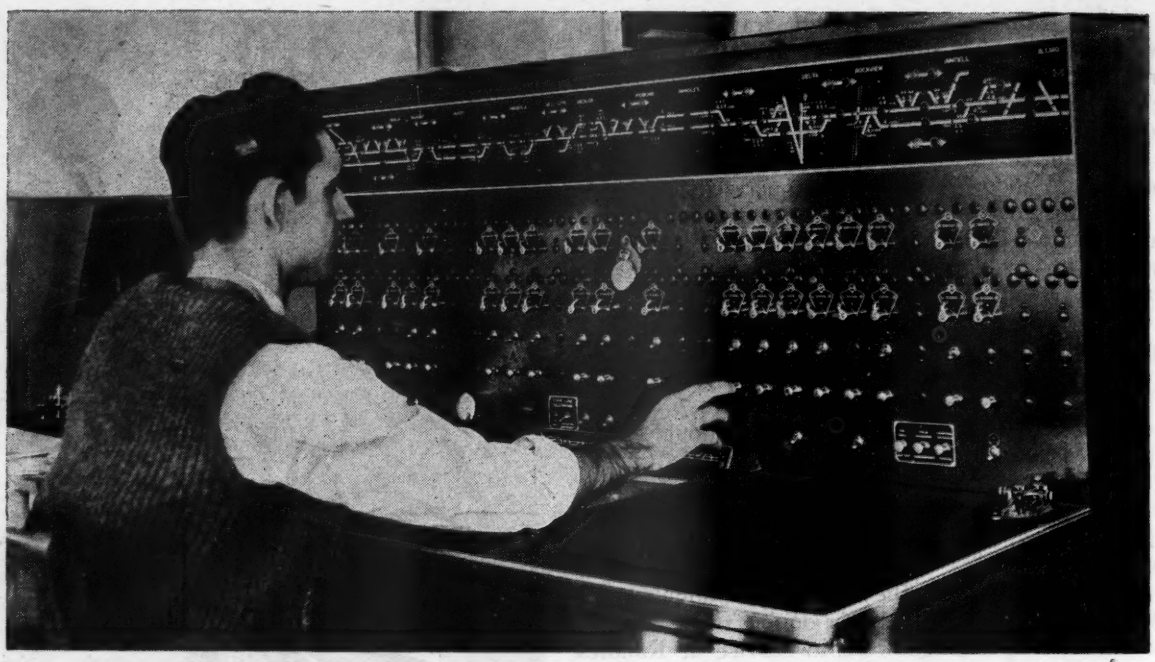
When making studies to determine the possible benefits of centralized traffic control, the trains for several days were redispatched on time-distance charts. These charts showed that in only a very few instances were the lap siding layouts used effectively to hold two trains while a third train passed. For this reason, and in consideration of the fact that additional switch machines, signals, etc., as well as new No. 16 turnouts would have been required, the lap sidings as such were eliminated, the tracks being thrown to connect the sidings into one long siding at both Randles and Avert. New No. 16 turnouts were installed at these passing tracks as well as at the single sidings at Delta, Mesler, and Ardeola. Power switch machines at the yard lead switch and crossover at Ancell were retained in service. New power switch machines were installed at the end of



Passing Tracks Are Track Circuited and Signaled

Traffic Control Between Illmo and Dexter Junction





The Dispatcher at Illmo Operates the C. T. C. Machine

double track at Paront, and at Dexter Junction, as well as at both switches at the passing tracks at Delta, Randles, Mesler, Ardeola, Avert and Dexter Junction. The only spring switch retained in service is at the junction switch at Dexter Junction. As a part of the C. T. C. system, electric locks were installed at 21 hand-throw main line switches. The previous automatic signaling included electric locks on the gates at the crossings between the St. Louis-Southwestern and branch lines of the St. Louis-San Francisco and the Missouri Pacific at Delta.

Changes in Signaling

When installing automatic block signaling in this territory in 1941, the station-leaving main-line signals were located opposite the fouling points as required in C. T. C., so that no changes were required in these signals. Two additional searchlight units were added to the station-entering signals to form three-"arm" signals. Three-aspect color-light dwarfs were installed as leave-siding signals.

As a part of the C. T. C. project, track circuits were installed on the passing tracks, not only to control track-occupancy indications on the panel of the control machine, but also to control the signals for directing trains to enter sidings. The turnouts are No. 16, good for train speeds up to 20 m.p.h. when making diverging moves. If a switch is reversed for an approaching train to enter a siding which is not occupied, the entering signal can be cleared to display an aspect of red-over-yellow-over-red. If the siding is occupied by a train of the same direction, the entering signal can be cleared to display an aspect of red-over-red-over-yellow, to authorize an approaching train to enter the siding at restricted speed prepared to stop short of train or obstruction. A signal cannot be cleared to direct a train to enter a siding in a direction opposite that of a train which is occupying that siding.

The C. T. C. control machine is located in the dispatcher's office at Illmo. The illuminated track diagram on this machine includes lamps which indicate train occupancy of all sections of main line, as well as the passing tracks. One such lamp indicates occupancy of each station-to-station block as a whole, one lamp indicates for each OS switch detector section, one lamp indicates for each section of main track opposite a passing track, and one lamp indicates for each passing track. These lamps are normally extinguished but are lighted red if the corresponding section of track is occupied.

Above the track diagram, and corresponding with each station-to-station block, there is a double-ended arrow with two lamps. When the C. T. C. control is established for traffic direction northward, an amber lamp near the right end of the corresponding arrow is lighted, but when the traffic direction is established southward, the northward lamp is extinguished and a second lamp near the left end of the arrow is lighted. The direction of traffic is established before the C. T. C. line code is sent out to clear the semi-automatic signal governing train movements into the station-to-station block.

The switch levers in the top row and the signal levers in the bottom row are equipped with the conventional arrangement of indication lamps. Toggle switches in the third row control maintainers' call lamps at corresponding stations in the field. Toggle switches, in a row below the code starting push buttons, control electric locks on hand-throw switches.

Fireproof Control Office

At Illmo, the two-story station and office building, 93 ft. long and 24 ft. wide, was of frame construction throughout. For many years the dispatcher's office has been in the upper floor at the north end over the waiting room on the ground floor. When planning the centralized traffic control, it was desired to protect the control machine and office equipment from fire hazard.

A brick wall, 17 in. thick, was built from the ground up, to cut the building in two at a point 26 ft. from the north end, thus isolating this portion of the structure. The edges of this brick wall extend 12 in. out beyond the frame walls, as well as 36 in. above the original roof line.

All portions of the frame building north of the fire wall were covered with fireproof material, using asbestos shingles on the roof and outer walls, and sheet asbestos on the walls and ceilings inside the building. The floors

were covered with fireproof asbestos tile. All wiring in that part of the building was placed in metal conduit.

Previously when train movements were authorized by timetable and train orders, trains were delayed in numerous instances waiting for orders to enter this territory, simply because the dispatcher did not have advance information of sufficient accuracy concerning their arrival to enable him to plant the meets and passes, and get the orders issued ahead of time. Likewise trains were delayed on passing tracks because the dispatcher had no means, in numerous instances, of knowing the location of trains, or of changing orders to take advantage of changing conditions. With the C. T. C., the illuminated track diagram shows the locations of all trains on the main track as well as on the passing sidings. By watching the progress being made by each train, the dispatcher can advance trains to make close meets, and in numerous instances meets are made without either train being stopped.

Further Time Savings Are Gradual

A study made soon after the C. T. C. was placed in service showed that the average time of southbound trains was reduced 37 minutes, and of northbound trains 35 minutes. Further increases in these time savings are being made gradually as the dispatchers and engine crews become more familiar with the use of the C. T. C. facilities. In numerous instances freight trains which make one or more meets are now running through this 47 miles in 1 hour 15 minutes to 1 hour 35 minutes, this including one water stop at Delta or Avert.

This centralized traffic control project was installed by St. Louis-Southwestern forces under the jurisdiction of W. S. Hanley, chief engineer, and under the supervision of B. J. Alford, signal supervisor. The plans and major items of equipment were furnished by the Union Switch & Signal Company.

Why America Fights

"We must fight not merely to make the world safe for democracy but to give democracy first place in the world."
—*Henry Wallace*

"Our boys on the battle fields of the world are neither star gazers nor crusaders; I do not think they are greatly concerned about the political status of India after the war, whether or not King Victor Emanuel is sent to the limbo of forgotten men, whether "Tito" or Mihailovic prevails in Yugoslavia, whether the Spanish Falange is succeeded by a monarchy or a republic, or about any other political adjustment in Europe, the Far East, or the Near East. What they are fighting for is to save themselves and those they love, that the people of America may never feel the heavy hand of the conqueror, that we may have the right to worship Almighty God as our own consciences dictate, that we may have the right, within reasonable regulations, to say what we think, that in this country there may be a free press and, finally, that when they come back they may find an economy not too much planned but that they may have the great privilege of working out their own salvation under a free enterprise system whereby they may aspire to any heights, regardless of the side of the tracks from which they came.

"Since the dawn of civilization, force, not an implemented democracy, has ruled the world, and our lawmakers, including our Vice-President, if they will but take cognizance of this fact and act accordingly, will serve well their country and their fellow citizens, regardless of the temporary political effect of their official acts."

—*L. & N. General Attorney J. J. Donohue in an Address to Louisville Bank Auditors Assn.*

More Men and Materials in 1944*

By F. H. Becherer †

PRIOR to the present emergency, it was more or less a practice of individual supervisors to order materials indiscriminately. This practice, if followed today, is certain to produce most undesirable results. It is the duty of each supervisor to order only that material which is necessary, with an allowance to meet an emergency should one arise. So, in addition to the critical labor situation, supervisors are also confronted with the task of carefully anticipating material requirements. The majority of materials used in the construction of freight and passenger cars are critical or controlled materials and, while there is a considerable improvement in the situation at present, the shortage of critical materials, while not acute, will evidently continue during 1944.

The allotment of these critical materials is controlled by the War Production Board which adjusts the production program to conform to the material supply and allots materials to government agencies, known as claimant agencies, which in turn divide the allotment according to applications submitted to them. The Office of Defense Transportation is the claimant agency for all transportation including railroads, street cars, buses, inland waterways, etc., and for all such companies they present to the requirements committee of the War Production Board their quarterly requirements of material. When the requirements committee has furnished an allotment to the ODT it, in turn, distributes the allotment, giving the Transportation Equipment Division of the WPB that portion allotted to the railroads. The builders of railroad equipment also participate in this allotment and the Transportation Division makes a distribution on the basis of new equipment authorized by the ODT, and for maintenance and repair operations according to applications made on them by the various railroads.

90 Days for Most Deliveries

We have to anticipate our requirements months in advance of each quarter and, upon receipt of our allotment, we convert purchase orders previously placed into authorized delivery orders by furnishing our allotment number to the firms from which we purchase materials. We can expect few deliveries in less than 90 days and, on many items, we cannot expect delivery in less than eight or nine months.

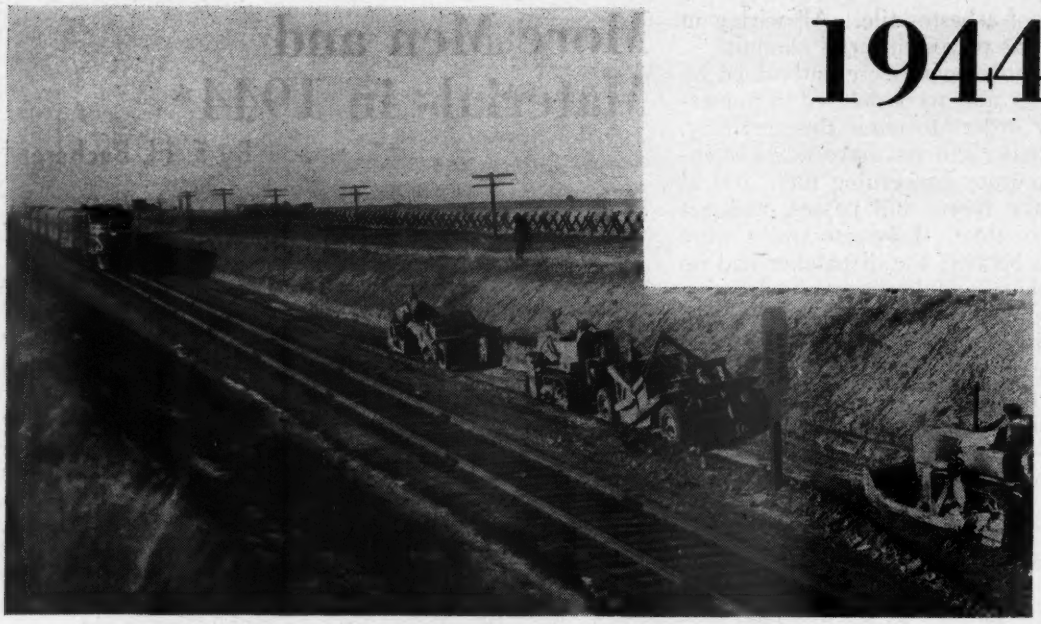
Much care must be taken in ordering material and it is better to be conservative in placing orders so as to avoid excessive stock balances. We frequently must present supplemental applications to the WPB for material not properly anticipated and it is difficult in such instances to convince the officials in Washington that we have an acute shortage of material if we have an inventory of several months stock on hand. All controlled material is requested on a ton basis and if we report excessive tonnage on hand it is exceedingly difficult to obtain a sufficient allotment to cover the items of which we may be short. Therefore, orders should be conservative in order to insure obtaining the items

(*Continued on page 509*)

* Abstract of an address delivered before the Toledo Car Inspection Association on January 20.

† Superintendent Car Department, Baltimore & Ohio.

1944 Will and



The Railways Will Do an Unusual Amount of Roadbed Rehabilitation This Year

Budgets for year call for more work to insure that military and civilian traffic will not be hampered by inadequate facilities and deteriorated structures

REVISION and expansion of essential facilities to enable the railways to move more expeditiously the extraordinary traffic they are now handling, and which bids fair to increase as the year advances, will be the major objective of practically all construction programs during 1944. These programs will not differ materially in character from those that were carried out last year, being designed generally to remove bottle necks at terminal and intermediate yards, to facilitate the handling of locomotives so that they will be returned to road service in minimum time, and to expedite trains between terminals.

The necessity for many of the improvements that will be made during the year stems from the fact that for more than a decade railway construction, while not completely at a standstill, was held to the minimum by lack of funds. Railway operating requirements are not static but are changing constantly, and the restrictions that were placed on improvements during this long period resulted in a vast accumulation of obsolescence with respect to the facilities needed to meet these changing requirements, particularly since pronounced changes were being made in operation methods. All of this created an enormous backlog of needed revisions and enlargements of facilities, which was greater at the beginning of the war than at any time in the past.

In this situation, when traffic began to increase with the faster tempo of preparation for war, and later with the war effort the railways were caught with a multitude of outmoded facilities and with others that were inadequate because of insufficient capacity to handle the greater volume of business that was being thrust upon them. To add to their difficulties, both the character of the traffic and the fact that a large part of it came from entirely new sources, created a demand for facilities that had not been needed previously. Another factor that was important in this respect was that much of the traffic handled did not flow in normal channels, since routings were often changed materially. An example of this is the reversal of the preponderant tonnage from eastbound to westbound on the lines serving the Pacific Coast.

Foreseeing the extreme need for revised and enlarged facilities, the railways undertook to carry out greatly expanded programs of construction in 1942, but were severely handicapped by the conditions surrounding civilian construction that year, and only a part of the work was completed. Last year the budgets were somewhat smaller, but more work was completed, despite the handicaps imposed by restrictions on materials and shortages of labor.

Immediate Needs Are Many and Pressing

Obviously, there is still a pent-up need for a vast volume of railway construction, not only to meet immediate requirements but to care for post-war needs, when competition is certain to be keener than the railways have ever been called upon to meet. Both engineering and executive officers are aware of these needs and are desirous of preparing for them. Yet, the immediate requirements are so pressing that present efforts are being directed almost solely to getting the work done now that is most essential for the conditions of today.

In fact, total budgets for the year are about 20 per cent greater than those of 1943, approximating $325,000,000.

Until two years ago the railways were unable to carry on well-organized campaigns for improvements to their properties because of lack of funds during the depression years. At present, funds are available and they stand ready to undertake larger construction programs than at any time since 1930, provided they can obtain the necessary materials and labor.

Railways Set Another Construction and Maintenance Record

The railways plan to increase their expenditures for both roadway construction and maintenance in 1944 by more than $175,000,000 over those of 1943, although the expenditures for that year fell only a little short of being an all-time record.

In construction alone, the aggregate expenditures for the United States and Canada are expected to rise to $325,000,000. In maintenance, the total for the year, as now budgeted by the roads in these two countries, is estimated at $1,300,000,000, the largest expenditure ever to be made for maintenance.

Details of these expanded programs for 1944 are discussed in this article, which is based on information given us by ranking engineering officers of 29 selected roads.

This forecast is based on information given us by the engineering officers of a selected group of typical roads concerning their plans for the current year, with respect to both construction and maintenance. Inquiries to determine what volume and character of construction will be undertaken in 1944, elicited replies from chief engineers and engineers maintenance of way of 29 roads representing 55 per cent of the operated mileage in the United States and of 1 road in Canada.

Of these, 22 gave details of their proposed expenditures, 4 gave partial information and 3 said that they had prepared no budgets, although all of the latter indicated that they expected to do substantial amounts of work during the year, while two of them said that they expected to do more work than they did in 1943. In addition to the 29 roads mentioned, 2 others replied that conditions are so unsettled that they were unable to predict what their activities for the year will be. Five of the 29 roads which gave definite information reported that they expect to spend less than they did last year, and 3 are planning to spend about the same. Yet, all of them indicated that they will do substantial amounts of work. The remainder disclosed that their budgets are larger than those prepared for 1943.

It is noteworthy that this year, as was the case last year, the budgets include principally work that is essential for expediting the assembly and forwarding of trains from yards, for expediting their movement out on the line, to facilitate the handling of locomotives at terminals and to hasten the loading and unloading of cars. Among the larger and more important projects that were listed, 14 roads plan yard improvements ranging from the lengthening of a few tracks, and in some cases increasing track centers, to extensions and enlargements, including new yards, that will cost individually in excess of $1,500,000, more than 40 such projects having been listed.

Approximately the same number of engine terminal improvements are included in the budgets of the same number of roads. In some cases, the engine terminals will be improved in connection with the yard improvements; in others they are independent of the latter. In some cases they involve longer turntables and longer engine pits and stalls; in others the plans call for major or complete revisions of the terminals, including cinder pits, water and coal handling facilities and heating and water lines in the enginehouses and other buildings incidental to the terminal operation. Shop improvements included in the budgets involve work

Revision and Enlargement of Yards Have a Major Place in the Budgets for 1944

ranging from slight rearrangements or enlargements of existing buildings to new structures and improved facilities for the repair of locomotives and cars; and to larger and more efficient power plants. In the aggregate, no budgets in recent years have contained provision for so many major improvements to water stations, principally to obtain larger or more dependable supplies, but also to insure faster or more dependable delivery to locomotives. These improvements include both pumping equipment and increased wayside storage, as well as increased treatment for water. Likewise, more fuel stations than usual are included in the budgets for this year.

Although the relocation and extension of passing sidings received major attention in both 1942 and 1943, this type of work continues to be a prominent feature of the budgets for 1944. Several officers who have included passing sidings in their budgets for this year explained that deliveries of larger locomotives have necessitated the lengthening of these sidings to hold longer trains, and it is worthy of note that in many cases they are increasing the lengths to 150 to 200 cars, particularly in connection with C.T.C. installations. Other roads have found that, as train speeds and density of traffic have increased, the passing sidings need to be relocated as well as extended, to provide maximum flexibility for train movements and prevent delays, while in some cases additional sidings are needed. In general, the relocation of passing sidings is undertaken in connection with installations of centralized traffic control, in which event remotely-controlled switches are included in the projects.

In general, the tempo of moving traffic is increasing all along the line, from the moment of its receipt to the time of its delivery. Among the other effects, this has resulted in higher average speeds for all trains. These higher train speeds have disclosed numerous cases where line revisions to reduce curvature are desirable, while increasing traffic densities have made some of these improvements imperative if delays to trains are to be avoided.

Roads that are operating high-speed trains have already made many minor line revisions and some that have involved work of considerable magnitude. However, the larger projects have generally been deferred because of lack of funds. Today, it is becoming imperative that some of these improvements be made, and several roads have included such projects in their budgets, while a considerable number of others of less magnitude will be undertaken during the year.

Only a Moderate Amount of Building

New buildings are being kept to the minmum; in general only those that will tend to speed traffic or expedite the handling of repairs of cars and locomotives are included in the programs for the year. Those that are included are principally enginehouses, shops, coaling stations, pump houses, interlocking towers, battery and relay houses and other buildings incidental to the construction or improvement of other facilities. Many buildings will be remodeled or enlarged to permit quicker repair of cars and locomotives, to facilitate the handling of passengers or freight and to expedite other operations that affect the movement of traffic. In general, there will be little modernization of stations or of other buildings, except to increase utility, although several roads reported that they have structures that are much in need of modernization, and that these jobs will be undertaken if they can get the necessary materials.

Not only are the railways as a whole handling more traffic than ever before, but traffic density has reached the point of congestion on many districts or portions of districts, with consequent delay to important war traffic, despite the system for rerouting traffic that has been established by the roads as a whole. Indicating that this situation is far more acute than it was a year ago, 12 of the roads reporting are planning installations of automatic signals on lines not now signaled and 11 expect to install centralized traffic control, while several interlocking installations are also contemplated. One road is planning to spend $1,000,000 for centralized traffic control alone, while several others will expend more than $500,000 each for this purpose. In addition, a considerable number of the automatic-signal projects will exceed $500,000.

10 Per Cent More for Maintenance

Although maintenance of way expenditures were greater in 1943 than in any previous year, being about $75,000,000 more than in 1920, the year of previous record, the budgets for maintenance, as now planned, show an increase of 10 per cent over the actual expenditures last year. This is in accordance with information given us by the same 29 roads from which information was obtained concerning their improvement programs. In this case, however, 24 roads gave details of their maintenance programs.

It is significant that only two roads are planning to spend less than they did in 1943 and that in both cases the decrease is relatively small, and that only three roads said that they plan to spend approximately the same as last year. The remainder have prepared budgets that call for increases ranging from 3 to 14 per cent over the actual expenditures in 1943. On the basis of the budgets of these roads, it is estimated that all of the railways in the United States and Canada will spend $1,300,000,000 for maintenance in 1944. This sum, combined with the $325,000,000 which will be spent for improvements, brings the grand total for construction and maintenance to $1,625,000,000.

In view of the prospect that traffic will remain at its present level or increase slightly, and that high-speed operation will continue, and in the further view that there have been serious deficits in new rail in every year since 1929, measured by gross ton-miles of traffic, it is not surprising that rail constitutes a major item in the budgets as a whole. With only one or two exceptions, the officers who gave us information on the subject are planning to lay more rail than they did last year. Fortunately, steel has been allocated for 1,800,000 tons of rail for 1944, about 40 per cent more than was actually laid in 1943. This tonnage, combined with that part of last year's allotment that was not received in time to be laid before the end of the year, will aggregate more rail than has been laid in any year since 1929.

During the depression years, the railways were forced by lack of funds to surface and resurface their tracks with the application of little or no ballast. Although an unusually large volume of ballast has been applied in each of the last three years, the effects of the lean years are still apparent on many miles of lines. Despite the amount of ballast installed during these recent years, it has been necessary to continue this practice until it becomes possible to apply new ballast. In addition, ballast is fouling and wearing out at an unprecedented rate under today's record traffic. For these reasons, although an increasing amount of new ballast has been used in each year since 1940, the maintenance budgets for 1943 contain even larger provision for ballast than in any

A Record Mileage of Track Will Be Ballasted This Year and Many Miles of Other Track Will Be Surfaced

Steel Bridge Renewals Will Be Larger Than in Any Recent Year

of these years, part of which is because of the larger amount of rail to be laid. However, additional amounts are also included for surfacing elsewhere. More than two-thirds of the officers participating in this survey expect to apply ballast on 100 or more miles of tracks upon which no rail will be laid, the plans of individual roads ranging up to 1000 miles.

While a few roads will decrease the amount of track to be given a general surface without the application of ballast, compared with 1943, the majority expect to equal or exceed the mileage surfaced last year, some by a wide margin. Individual roads plan to surface out of face up to 1,900 miles without the application of new ballast.

Although the indicated increases are not so great relatively as those contemplated last year, they are substantial. Individual roads plan to install up to 1,300,000 cu. yd. of ballast while others indicated that they will ballast up to 1,500 miles of track. In the aggregate, it is indicated that well over a million yards more ballast will be placed than was applied in 1943, itself a record year for this class of work. In confirmation of this estimate, the budgets also contemplate the purchase of 1,030 tie-tamping outfits and unit tampers, most of which are intended as additions to the equipment now in service.

Present-day requirements are such that no progressive maintenance officer would apply ballast on a roadbed of less than full section, or unless drainage is adequate to assure a stable roadbed to support the newly-surfaced track. For this reason, the budgets for this year provide for an increase in bank widening and drainage, corresponding roughly to the increase in the amount of track to be ballasted. In fact, some of the roads indicated that strengthening the roadbed and drainage, including the widening and shaping of troublesome cuts, will have a large place in their programs, and this is confirmed by the fact that they have included 371 off-track earth-moving units in their current budgets; the largest number for which such provision has ever been made.

More Ties Will Be Renewed

As might be expected in view of the enlarged rail and ballasting programs and provision for other surfacing out of face, the budgets indicate an increase in the number of ties to be renewed. In directing attention to this item, many of the roads also referred to the scarcity of ties, and said also that present traffic is destroying ties at an accelerated rate and that it is becoming imperative the doubtful ties be removed instead of being left in for another year, as has been the practice in recent years.

Maintenance officers have not forgotten the difficulties that resulted from neglect of the right of way during the depression years and the troubles they had with right-of-way fires because of failure to control vegetation. Despite the present shortage of labor and the

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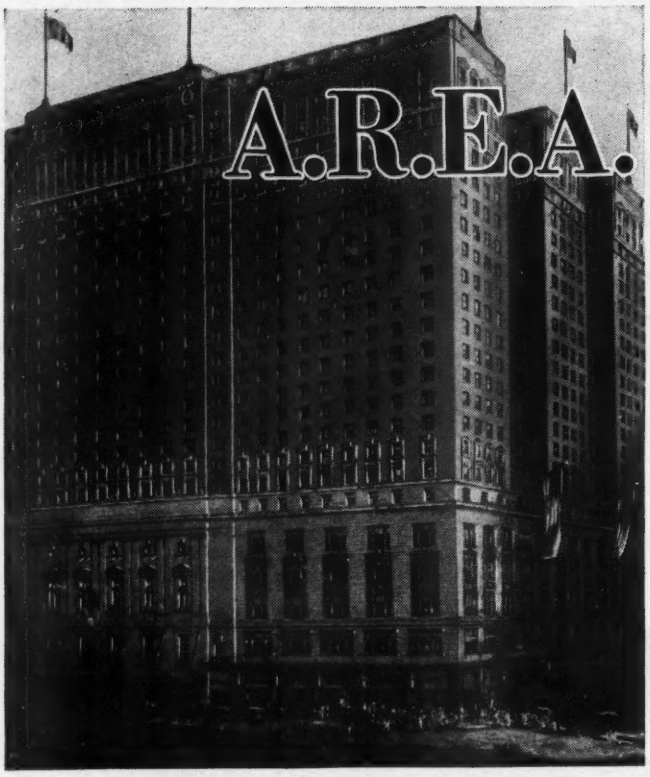


The Palmer House—Headquarters of the Annual Meeting

To Analyze

THE forty-fourth annual meeting of the American Railway Engineering Association, with a program keyed throughout to the tremendous war effort of the railways, and especially to the problems of their engineering and maintenance forces, will be held in Chicago on March 14-16. This meeting, which will bring together engineering and maintenance officers of the railways of the United States and Canada for the first time since March, 1942—no annual meeting of the association having been held in 1943—will be held in the Grand Ballroom of the Palmer House.

Differing from the procedure of previous years when primary consideration has been given to the presentation of reports by the standing and special committees of the association, the reports this year will be interspersed with addresses by prominent authorities on Labor, Materials and Postwar Problems.

Sessions on Labor and Materials

Setting the keynote for the meeting, J. M. Symes, vice-president, Pennsylvania, will address the opening session on The Task Before Us. The session on Tuesday afternoon will be devoted to the problems being created by the critical shortage of labor, with an address on The Over-All Picture by H. L. Carter, director, Bureau of Employment and Claims, Railroad Retirement Board, who is heading up the government organization that has been developed to cooperate with the railways in opening up resources of labor. This address will be supplemented by more specific addresses dealing with the employment of Mexican Nationals, by T. A. Blair, assistant chief engineer, A.T.&S.F. system, and on the employment of high school boys, by W. G. Powrie, engineer maintenance of way, C.M.St.P.&P. system.

The session on Wednesday afternoon will be devoted to Materials, and will be opened by an address by Albert C. Mann, director, Transportation Equipment Division, War Production Board, who will discuss The Over-All Picture. This address will be followed by a symposium on measures to meet existing shortages, which will include addresses by A. A. Miller, chief engineer maintenance of way and structures, Missouri Pacific, who will discuss Track Materials; by A. R. Wilson, engineer bridges and buildings, Pennsylvania, who will discuss Bridge Materials; by A. L. Sparks, architect, Missouri-Kansas-Texas Lines, who will discuss Building Materials; and by A. B. Pierce, engineer of water supply, Southern, who will discuss Water Service Materials.

Postwar Considerations

At a session on Thursday forenoon, consideration will be given to the postwar problems of engineering and maintenance officers, with Col. Ralph Budd, president, Burlington Lines, speaking on Postwar Problems and Opportunities for the Railways, followed by C. E. Smith, vice-president, N.Y.N.H.&H., who will speak on The Postwar Challenge to Engineering and Maintenance Officers.

Two other special features of the meeting will be the annual association luncheon on Wednesday, which will be addressed by R. L. Groover, associate director, ways and structures, Office of Defense Transportation —representing Joseph B. Eastman, director, and a session on Wednesday evening, which will be addressed by Lt. Col. Ralph E. Sherer, chief maintenance of way officer, Headquarters Staff, European Theater, Military Railway Service, on The Contribution of Railway Men to the War Effort in the Combat Zones. Interspersed among these many special features of the three-day program, 23 of the special and standing committees of the association will present reports on 113 subjects, covering a wide range of problems confronting track, bridge, building and water service officers.

All regular sessions of the meeting will be presided over by H. R. Clarke, president of the association and chief engineer of the Burlington system, assisted by vice-president F. R. Layng, chief engineer, Bessemer & Lake Erie, and secretary Walter S. Lacher.

A complete report of the annual meeting, including abstracts of the reports and addresses presented at the various sessions and of the comments made in discussion from the floor, will appear in the next, or March 18, A.R.E.A. Convention Proceedings issue of the *Railway Age*.

War-Time Problems

At Annual Meeting in Chicago

Prominent authorities on labor, materials and postwar outlook will highlight three-day session in Palmer House, March 14-16

Program

44th Annual Meeting

Tuesday, March 14

MORNING SESSION—9:45 A.M.

Meeting called to order
Address by H. R. Clarke, president
Reports of the Secretary and the Treasurer
Address on the Task Before Us, by J. M. Symes, vice-president, Western region, Pennsylvania
Reports of committees on
- Signals
- Electricity
- Economics of Railway Location
- Yards and Terminals

AFTERNOON SESSION—2:00 P.M.

Labor—Our Number 1 Problem

Report of Committee on Economics of Railway Labor
Address on The Over-All Picture, by H. L. Carter, director, Bureau of Employment and Claims, Railroad Retirement Board
Symposium on Expedients That Have Been Tried—Mexican Nationals—T. A. Blair, assistant chief engineer, A. T. & S. F. system
- High School Boys—W. G. Powrie, engineer maintenance of ways, C. M. St. P. & P.

Discussion
Report of Committees on Maintenance of Way Work Equipment

Wednesday, March 15

MORNING SESSION—9:00 A.M.

Reports of committees on
- Highways
- Roadway and Ballast
- Track
- Rail

ANNUAL LUNCHEON—12:00 O'CLOCK

Address by R. L. Groover, associate director, ways and structures, Office of Defense Transportation—representing Joseph B. Eastman, director

AFTERNOON SESSION—2:15 P.M.

Materials—The Number 2 Problem

Address on The Over-All Picture, by Albert C. Mann, director, Transportation Equipment Division, War Production Board
Symposium on Measures to Meet Existing Shortages in Materials
- Track Materials, by A. A. Miller, chief engineer, maintenance of way and structure, Missouri Pacific
- Bridge Materials, by A. R. Wilson, engineer bridges and buildings, Pennsylvania.
- Building Materials, by A. L. Sparks, architect, Missouri-Kansas-Texas Lines
- Water Service Materials, by A. B. Pierce, engineer of water supply, Southern

Discussion
Reports of committees on
- Buildings
- Water Service

DINNER—6:00 P.M.

Dinner tendered by National Railway Appliances Association

EVENING SESSION—8:00 P.M.

Address on The Contribution of Railway Men to the War Effort in the Combat Zones, by Lt. Col. Ralph E. Sherer, chief maintenance of way officer, Headquarters Staff, European Theater, Military Railway Service.

Thursday, March 16

MORNING SESSION—9:00 A.M.

Reports of committees on
- Ties
- Wood Preservation

The Railways Look Post-War

Report of Committee on Co-operative Relations with Universities.
Address on Problems and Opportunities for the Railways, by Ralph Budd, president, Burlington Lines
Address on The Challenge to Engineering and Maintenance Officers, by C. E. Smith, vice-president, N. Y. N. H. & H.
Reports of committees on
- Iron and Steel Structures
- Wood Bridges and Trestles
- Clearances
- Impact

AFTERNOON SESSION—2:00 P.M.

Reports of committees on
- Records and Accounts
- Masonry
- Waterproofing

Closing Business

N.R.A.A. Defers March But Officers

W. J. Hanna
President

Board of Directors, N.R.A.A.

President

W. J. Hanna, Republic Steel Corporation, Chicago.

Vice-President

C. D. Young, Metal & Thermit Corporation, Chicago.

Secretary

C. H. White, Industrial Brownhoist Corporation, Chicago.

Treasurer

V. E. McCoy, National Aluminate Corporation, Chicago.

Honorary Directors

H. H. Talboys, Nordberg Manufacturing Company, Milwaukee, Wis.
R. B. Fisher, Buda Company, Harvey, Ill.
J. S. Hutchins, Ramapo Ajax Division, American Brake Shoe Co., Chicago.

Directors

Lem Adams, Oxweld Railroad Service Company, Chicago.
C. L. Mellor, Barco Manufacturing Company, Chicago.
H. M. McFarlane, O. F. Jordan Company, East Chicago, Ind.
F. P. Cullen, Cullen-Friestedt Company, Chicago.
W. F. Kasper, Fairmont Railway Motors, Inc., Fairmont, Minn.
W. A. Maxwell, P. & M. Co., Chicago.

Production—Our Job

By W. J. Hanna*

MARCH again finds the National Railway Appliances Association with but one alternative—no exhibition. Our Board of Directors considered this matter very carefully, and was of the unanimous opinion that we, as manufacturers and suppliers of railway equipment and materials, could not do justice to an exhibition at this time, while the efforts of every American are bent on bringing World War No. 2 to a speedy conclusion.

Production, not selling, is our big job for the moment, and we firmly believe that we can best assist the American railroads with their unprecedented problems by keeping our men out in the field and on the line for this specific purpose, rather than to bring them in to help conduct an exhibit. Furthermore, we feel that it would be extremely unpatriotic to burden the already overloaded carriers with the tremendous amount of equipment that would necessarily have to be handled for a successful exhibition.

With this thought in mind, our association has decided not to hold its "March Show" this year. In lieu thereof, we will establish headquarters in the Palmer House adjacent to the A.R.E.A. meeting room on the fourth floor, where facilities will be provided for members of the American Railway Engineering Association and other interested railroad officers to gather. We extend to our railway friends a cordial invitation to use these facilities for this purpose, as well as for a place to rest between their various sessions.

We feel that the decision of the American Railway Engineering Association to hold its annual meeting is most commendable and we congratulate the association upon its decision. This association is outstanding in the amount and character of the work which it accomplishes at its annual meetings, the earnestness with which each problem is approached and solved, and the intensity with which its committees work. We offer to these members our unanimous support, and ask them to call upon us for any assistance we may render.

* President, National Railway Appliances Association, and District Sales Manager, Republic Steel Corporation, Chicago.

Mutual Benefits

By C. H. White*

MARCH is again with us, and I am pleased to have received official notice of the intention of the American Railway Engineering Association to resume its annual meetings. Twenty-five years contact with that association can leave but one thought, and that is the tremendous amount of good that has been accomplished through its meetings, the earnestness with which its committees approach their subjects, and the very constructive decisions reached. It has been a great source of satisfaction to know the men who have accomplished so much.

The National Railway Appliances Association has carried on its activities through Board and committee meetings to the best of its ability under existing conditions. We have been ever mindful of the benefits derived through the close cooperation of our two associations, and through the intimate contacts made during our exhibitions. Members of the A.R.E.A. attend the "March Show" to view the progress and improvements made in equipment and supplies—to offer criticism and suggestions. We meet our old friends and become acquainted with the ever-increasing number of new men promoted to key positions on the railroads.

* Secretary, National Appliances Association, and District Sales Manager, Industrial Brownhoist Company, Chicago.

Exhibition and Members Carry On

Messages from president and secretary congratulate A.R.E.A. on resumption of its annual meetings

C. H. White, *Secretary*

I trust that the members of the A.R.E.A. and our other railroad friends will take advantage of the headquarters our association has established adjacent to the meeting room. I list below the present members of our association, all of whom are your hosts, and all of whom are at your service, whether your needs be the maintenance of old equipment or materials, the acquisition of new, or the development of your ideas as to how to serve best our transportation systems. Please feel free to call upon us.

In closing, I wish to say to you that your work has been well done—"carry on."

National Railway Appliances Association Membership

Adams & Westlake Co.
Air Reduction Sales Company
American Car & Foundry Co.
American Fork & Hoe Co.
American Hoist & Derrick Co.
American Nut & Bolt Fastener Co.
Armco Railroad Sales Company
Austin-Western Company

Barco Manufacturing Company
Bethlehem Steel Company
Buda Company

Caterpillar Tractor Company
Chicago Pneumatic Tool Company
Chipman Chemical Company
Cleveland Frog & Crossing Co.
Cook, Howard P., Company
Crerar, Adams & Co.
Cullen-Friestedt Company

Dearborn Chemical Company
deSanno & Son, A. T., Inc.
Dickinson, Paul, Inc.
Duff-Norton Manufacturing Company

Eaton Manufacturing Company, Spring Washer Div.
Elastic Rail Spike Corporation
Electric Temper & Equipment Co.

Fairbanks, Morse & Co.
Fairmont Railway Motors, Inc.
Frog Switch & Manufacturing Co.

Gary Screw & Bolt Co.
General Electric Company

Homelite Corporation
Hubbard & Co.

Industrial Brownhoist Corporation
Ingersoll-Rand Company
Inland Steel Company

Johns-Manville Sales Corporation
Jordan, O. F., Company

Kalamazoo Railway Supply Company
Kerite Insulated Wire & Cable Co., Inc.

Lehon Company
Lewis Bolt & Nut Co.
Lundie Engineering Corporation

Magnaflux Corporation
Maintenance Equipment Company
Mall Tool Company
Massey Concrete Products Company
Master Builders Company
Metal & Thermit Corp.
Morden Frog & Crossing Works
Morrison Railway Supply Corporation
Murdock Mfg. & Supply Co.

National Aluminate Corporation
National Lead Company
National Lock Washer Company
Nichols Engineering Company
Nordberg Manufacturing Company
Northwestern Motor Company

Oxweld Railroad Service Company

P. & M. Company
Pettibone Mulliken Corporation
Philadelphia Steel & Wire Corp.
Pittsburgh Pipe Cleaner Company
Pocket List of Railroad Officials
Positive Rail Anchor Company
Pyle-National Company

Q & C Company

Rail Joint Company, The
Railroad Accessories Corporation
Railroad Products Company
Rails Company
Railway Age
Railway Maintenance Corporation
Railway Purchases and Stores
Railway Track-Work Company
Ramapo Ajax Div., American Brake Shoe Company
Republic Steel Corporation
Rust-Oleum Paint Corporation

Snow, T. W. Construction Company
Stanley Electric Tool Div., The Stanley Works
Syntron Company

Taylor-Wharton Iron & Steel Co.
Teleweld, Inc.
Templeton, Kenly & Co.

Union Switch & Signal Co.
United States Steel Corporation
United States Engine & Pump Co.
Unit Rail Anchor Company, Inc.

Warren Tool Company
Western Railroad Supply Company
Westinghouse Electric & Mfg. Co.
Woodings-Verona Tool Works
Woolery Machine Company

Youngstown Sheet & Tube Co.

New and Improved Products of the Manufacturers

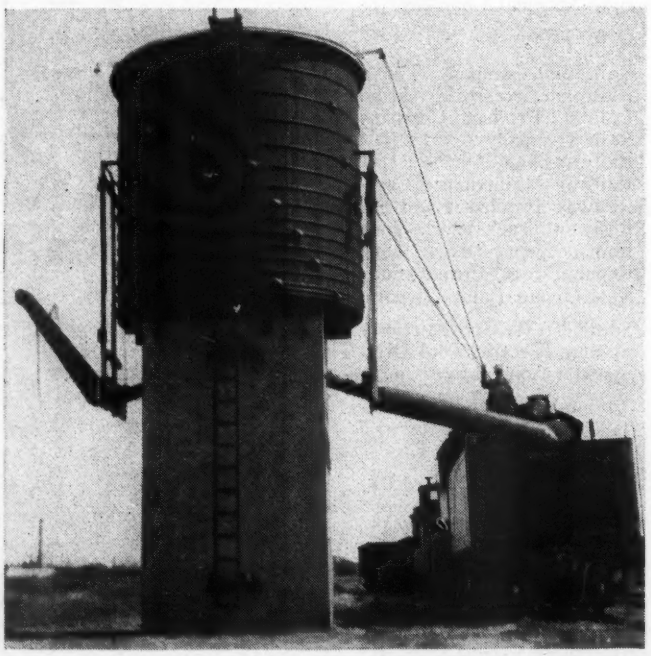
New Type Snow Tank Spout Stays Down

The T. W. Snow Construction Co., Chicago, Ill., has developed a new water tank spout which is designed to deliver a large quantity of water safely. This spout, which has been in service for several months at a water station on a western railroad near Chicago, is the result of extensive research and is reported as delivering as large a volume of water in a given time as any of the old-style spouts, without tendency to force the spout upward. This upward force is so great with some type of spouts, that, with rapid delivery of a large volume into low tenders, a trainman has to hold the spout down with nearly all his weight or, in some instances, he chains the spout down to the tender hatch while taking water.

The avoidance of this upward force in this spout results from its special design with a big belly instead of a more or less uniform taper, and is found on the older designs. This belly serves two purposes: first, it holds more water in the lower end, so that the weight of the water in the barrel of the spout tends to hold it down; and secondly, the large amount of water in the barrel tends to dissipate the force caused by the deflection of the water which would otherwise tend to raise the spout. This spout has a standard butt approximately 20 in. in diameter, and is of uniform diameter throughout the barrel to the end, which has a very abrupt short-radius elbow with an opening not much larger than the size of the outlet pipe in the tank.

In the particular installation referred to, the spout is attached to a new 20,000-gal. redwood tank mounted on a 11-ft. by 11-ft. brick tower The tank is connected to the city water supply and is kept full at all times by an automatic float valve. In the bottom of the tank, a clapper-type valve and 10-in. outlet supply the spout. The 10-in. valve opening to the spout is wide-open instead of being partially blocked, as is the case in most installations because the conventional type of spout is made to take the full flow safely. This is the first installation ever made by this company in which it has not been necessary to block the valve mechanism to make the spout safe to handle. The rate of flow with this installation approximates 3,000 to 3,500 gal. per min.

The tank outlet has an air release check valve which permits air to enter the spout to displace the water and prevent a vacuum when the outlet valve is closing. This also prevents the outlet valve from being closed so hard that it bounces open again and makes it possible for the operator to close the valve easily and slowly and fill the tender quickly. Both the tank valve and the air release valve are located in the water near the bottom of the tank to prevent freezing in winter.



A Locomotive Taking Water on the Main Line with the New Snow Spout. A Conventional Type Spout May Be Seen on the Other Side of the Tank

Extra-Strength Vitrified Clay Pipe

The Dickey Clay Manufacturing Company, Kansas City, Mo., has begun the manufacture of an extra-strength vitrified clay pipe, which meets the specifications of the American Railway Engineering Association and will soon be in production of this extra-strength pipe in practically all sizes from 6 in. to 24 in. diameter. This company has also supplied a western railroad recently with 60,000 ft. and a northwestern road with 15,000 ft. of Skip-Pipe for underdrains.

Skip-Pipe is a bell and spigot type of clay tile pipe with a semi-circular or U-shaped section enclosed by a slightly concave top or cradle between the legs of the U. This cradle may have either a smooth surface, or longitudinal corrugations. A positive opening is provided at the joints for entrance of fluid and the cradle may be chamfered at

An Installation of Skip-Pipe for Subdrainage in New Mexico

the spigot end to direct the water in the direction of flow as it enters the pipe. The hydraulic properties of Skip-Pipe are such that it is said to discharge a volume of water equal to that discharged by full round pipe of comparable size, although the inside cross sectional area is about 25 per cent less. It is also said to have low head take off; i.e., that it will start discharging water before other pipes and continue after other pipes have ceased; and to be practically non-clogging.

Skip-Pipe is made in 2-ft. lengths of 4, 6, 8, 10 or 12 in. diameter.

Lightweight High Capacity Two-Way Dump Cars

The Austin-Western Company, Aurora, Ill., has delivered some new 90 to 100-ton dump cars which represent the latest developments in design, construction and accessories. The cars have a capacity of 43-cu. yd. level full, and are designed for hauling average loads of 90 to 100 tons of rock. The rock handled is of all sizes and the service and material are most severe on equipment.

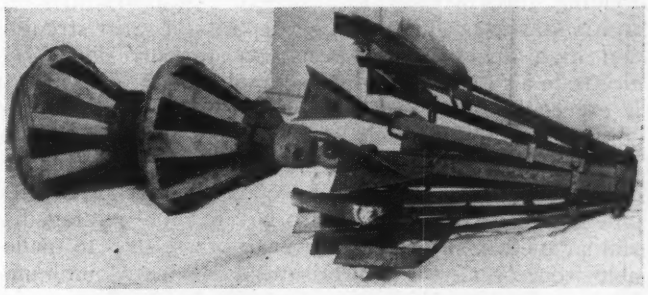
To meet this service, the car is built of Man-Ten light weight, high tensile alloy steel, with a bed of all-welded design. The doors turn outward and downward when the car body is dumped and are designed with a rounded top of heavy bent plate with no welds at or near the top. The doors are adequately hinged to the side bed sill members and are designed with great strength at the top, where it is needed, with a combination of both welded and riveted construction In the upright load position, the doors act as stiff girders. The ends of the doors are beveled to act as sled runners when plowing through dumped material which tends to raise the door. This eliminates the bulldozing tendency of the former type of blunt-end doors.

The underframe draft sills are designed to withstand impacts of loading and movement of loads in transit. The bed rests directly on the draft beam but is supported by closely spaced, shock-absorbing rubber cushion pads, fastened to each cross bed sill on approximately 12-in. centers and resting upon the top of the box girder draft sill underframe. The new cars eliminate the old sandwich floor construction of steel, wood and steel, thereby obtaining a large reduction in dead weight.

The dump cylinders are the Austin-Western telescoping type, with the bodies, heads, pistons, etc., made of steel plate, thereby obtaining a further large reduction in weight, as compared to the old type cast iron or cast steel cylinders. The cylinders tilt when the air is applied, and cushion the return of the body to the upright position. A simple bell crank mechanism at each end of the cars synchronizes the movement of the doors with the movement of the car body in dumping and when the car body is righted. The down-turned doors in dumping position assure a 5 per cent steeper dumping angle than the floor of car and serve as a chute to dump the material a maximum distance from the track.

Each car carries its own air supply in large storage reservoirs, which charge automatically while the train is running or loading and there is no interference with the train air when the cars are being dumped or righted.

The cars are mounted on trucks of a special design developed for this service by American Steel Foundries and have Timken roller bearings and clasp brakes. Cars of this type are made in capacities ranging from 20 to 50 cu. yd.

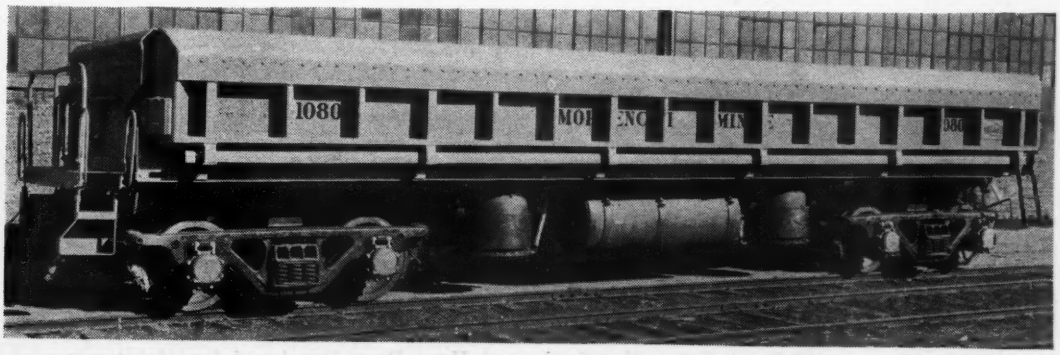


The Splitting Tool Is Used for Cleaning Pipe Lines, Containing Hard Deposits

Pittsburgh Splitting Tool for Cleaning Pipe Lines

The Pittsburgh Pipe Cleaner Company, Pittsburgh, Pa., has developed a splitting tool with a series of staggered teeth for cleaning hard deposits or incrustations from pipe lines. This tool can be used for cleaning both water and storm sewer lines, and has been used to particular advantage in many instances to clean sewers around enginehouses and terminals, where accumulations of cinders and waste have greatly reduced the effective opening of the pipe. It is said to be a very useful pipe cleaning accessory for removing hard deposits or high ledges inside pipe, which are too hard to remove by scoops and buckets.

The splitting tool is a mechanical scraper-type pipe cleaner with a series of staggered teeth. This tool comes in four sizes, ranging from 4 in. to 48 in. in diameter. In each size range, the tool can be set to a predetermined diameter by means of an adjustment. In this manner, a cut that is too heavy can be avoided and it can be used



A Dump Car of 100-Ton Capacity, Built of Lightweight Alloy Steel for Heavy Service

with particularly hard or difficult deposits to enlarge the pipe opening gradually by making several passes. It is operated with a wire rope and winches. If the splitting tool becomes lodged, it is pulled back and it is so designed that a rearward pull causes it to collapse and free itself.

New Aluminum-Bronze-Coated Electrode

The Air Reduction Sales Company, New York, has developed an aluminum-bronze-coated electrode, AIRCO No. 100, described as a high-tensile bronze shielded arc electrode which can also be used as a filler rod in carbon arc welding. This electrode has a universal application in welding most bronzes, malleable or cast iron and steel, and is said to produce welding deposits of great strength and high ductility with resistance to corrosion. The electrode also has other specific applications for which it is especially suited, such as welding manganese bronze conforming to Federal Specifications QQ-B-726b, or Navy Specifications 49-B-3e, where unusual strength, ductility and corrosion resistance are strict requirements The AIRCO No. 100 can also be used for welding dissimilar metals, such as cast iron to brass, steel to malleable iron, or any two metals weldable with aluminum-bronze. Standard sizes of the electrode are from ⅛-in. to 3/16-in. in 14-in. lengths, and ¼-in. in 18-in. lengths, while sizes from 5/16-in. to ½-in. in 18-in. lengths are available on special order.

Use of Caterpillar Off-Track Equipment

The Caterpillar Tractor Company, Peoria, Ill., reports an interesting example of the use of a variety of off-track grading and ditching equipment on a western railroad in which an original investment of $100,000 is said to have resulted in saving more than $750,000 annually. In 1936, this road purchased off-track power shovels, draglines and Caterpillar track-type tractors to replace 11 steam ditchers and three large railroad-type steam shovels as the result of a policy, adopted at that time, of replacing older type outfits with modern, flexible machines.

This equipment is reported as having been used for a large variety of work and, because of its flexibility, to have proved to be extremely useful during emergencies, in addition to permitting a large amount of work to be done on heavy-traffic single-track main lines without interference to train operations.

Among the many applications of this equipment, Caterpillar Diesel D4 tractors with front end loaders have been used for loading trucks in such work as extending passing tracks, ditching, widening banks, loading small rip-rap, digging foundations and other excavating jobs. Such equipment is said to do this work better and quicker than many men with shovels.

Other tractors equipped with bulldozers or trailbuilders have been used to widen banks by borrowing material from the right of way and place it on embankment shoulders. This method of bank-widening is said to cost as little as one-tenth the former cost of doing such work. These same units can be utilized for changing river channels, riprapping, cleaning up wash-ins, slides, and work on coal storage piles, as well as for grading for passing track extensions. In winter, they may be equipped with snow blades and used to clear slides which might otherwise block lines.

All sizes of Caterpillar tractors can be equipped with winches, as well as bulldozers or trailbuilders, and thereby increase their usefulness. Its use provides approximately twice as many pounds pull on the cable as the drawbar. The winch has been utilized to place heavy riprap and it has been reported as very efficient on derailment work. In this work, it can be used to handle overturned cars and clear the line for traffic, since the tractors can work wherever the cars are off the track and are not limited to working at each end of the derailment.

Also, where wash-ins occur in narrow canyons, the trailbuilder or bulldozer is used to push material directly into the river, thus facilitating speedy resumption of service.

Another instance where use of off-track equipment made large economies possible, was on a long grade in the mountains. Head-end cinders clogged tracks and ditches and fouled the ballast and it was formerly necessary to keep a work train and steam ditcher in the territory 10 months of the year. Now a D4 tractor, equipped with a Traxcavator ¾-yd. shovel, does the job, without interfering with traffic or the work. Ditching with such machines can be done under a wide variety of conditions. Using a 1¼-yd. front-end loader, it is said that material can be moved economically, even in cuts a mile in length. Where this is done, runways are usually built at intervals so that the outfit can carry the material to the top of the cut where it can be wasted. Using this runway, building technique has multiplied the effectiveness of these machines many times.

The largest, and probably the most interesting, of all the off-track equipment is the large tractor and scraper unit. It is used for making cuts and fills and is built in capacities ranging up to 35 cu. yd. Its ability to load itself, transport its loads, and then to spread them evenly and to any desired depth, makes it a desirable piece of

Many Applications of Off-Track Caterpillar Equipment Have Been Developed for Maintenance of Way Work

grading equipment. The feature of even spreading makes it possible to place shallow layers of earth on fills, and resulting compaction insures a minimum of settlement afterward.

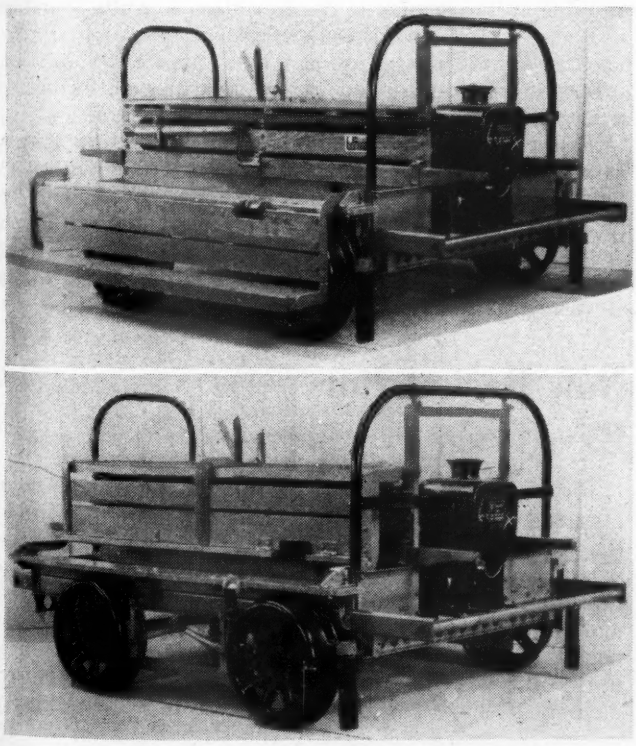
Use of these outfits and bulldozer-equipped tractors has made possible the elimination of trestles, wherever drainage areas permit filling on culverts. This equipment has materially decreased earthmoving costs, and by filling from the bottom, gives the embankment excellent compaction. This practically eliminates settling and the attendant slow-orders and expense which prevailed with the older methods.

The abililty of the equipment to work in water up to the fan makes it adaptable for widening existing river channels or cutting new ones. This technique has been used to eliminate the danger of track washouts during high water periods.

Other off-track equipment, such as draglines and shovels, is also said to have proved its versatility and year around availability under the extreme climatic and physical conditions existing on this road.

Side Step Seats For Fairmont Motors

To provide seating capacity for as many as eight extra men on its S2 series F, and S2 series E, standard eight-man section cars, Fairmont Railway Motors, Inc., Fairmont, Minn., has developed a series of hinged side step seats which are so designed that they can be applied to either the direct-belt-drive cars or two-speed gear cars. Field installation to motors in these classes already in operation is simple and practical. When in use, the side step seats provide seats and foot rests for additional men riding the motor and, because of their sturdy construction, offer completely safe transportation. When not in use, the side step seats fold in against the car housing, thus permitting the motor to be rolled into any car house having doors of sufficient width for standard section cars or into any box car door, including old type box cars with narrow doors. The step seats cannot be installed on the early S2 series E, because of differences in construction of those models.



(Top)—Fairmont Section Motor With Side Steps in Place Which Increases Seating Capacity to 16 Men. (Bottom)—Showing the Side Step Seats Folded Against the Car Housing

Stonhard Stonfast

A product for patching ruts and holes in floors subjected to heavy trucking, without delaying traffic, named Stonhard Stonfast, has been introduced recently by the Stonhard Company, Philadelphia, Pa. To apply Stonfast, a primer is applied and Stonfast is spread over the rut or hole and tamped, after which the floor, aisle or platform can be opened immediately for traffic. Stonhard requires no preliminary heating, mixing or troweling and is said to be a fast and permanent resurfacing material. In addition, it can be applied by any unskilled labor.

Applying Stonhard Stonfast on a Freight Transfer Platform

New Wayne Centrifugal Pump

The Wayne Pump Company, Fort Wayne, Ind., is introducing a new type of centrifugal pump for handling gasoline or fuel oils which is said to differ from other similar units in that it is self-priming and air-eliminating in its own action, and can be used to pump from underground storage tanks or to unload tank cars from the top. The pump is also adapted to operation with flooded suction where storage tanks are located above ground or where tank cars are unloaded from underneath.

The unit incorporates simple hydraulic jets in conjunction with a centrifugal impeller. The jets are fed by a small portion of the delivery from the large impeller and they in turn create vacuum for priming the pump and for eliminating vapor and air from the suction line. Because the pump automatically separates air from the liquid, it can be used with meters without the necessity of adding air separators. Another important feature of the pump is the fact that the centrifugal characteristics permit the use of a large unit with multiple outlets. Re-

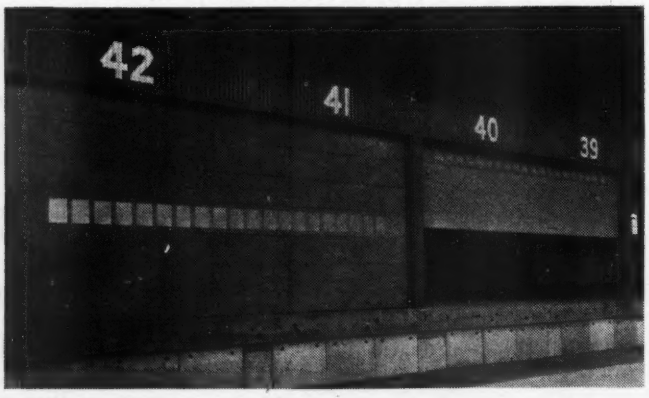
A Railroad Installation of a Wayne 100-g.p.m. 3-hp. Pump and 100-g.p.m. Meter, Which Has Been in Service for Several Years

gardless of the number of outlets, however, no by-pass valve is required so that there is no shock, hydraulic hammer, or excessive pressure when the outlets are closed. Since the pump has only one impeller, agitation of the liquid and foaming are minimized, which are of importance in fueling Diesel locomotives. Pumps of 15, 25, 100, 200 and 300 g.p.m. are available and these units are equipped with ⅓-, ¾-, 3-, 5- and 7½-hp. motors. A complete line of positive displacement meters is also available.

Kinnear Door In Use 40 Years

The Kinnear Manufacturing Company, Columbus, Ohio, reports an interesting record of a steel slat-type rolling door that was installed in the entrance to a boiler room in 1904. The company that purchased the door reports that it is still in use, that it has given good service in all kinds of weather, that the maintenance has been "nil" and that, with the installation of a few repair parts recently ordered, it expects the door to be good for as many more years service.

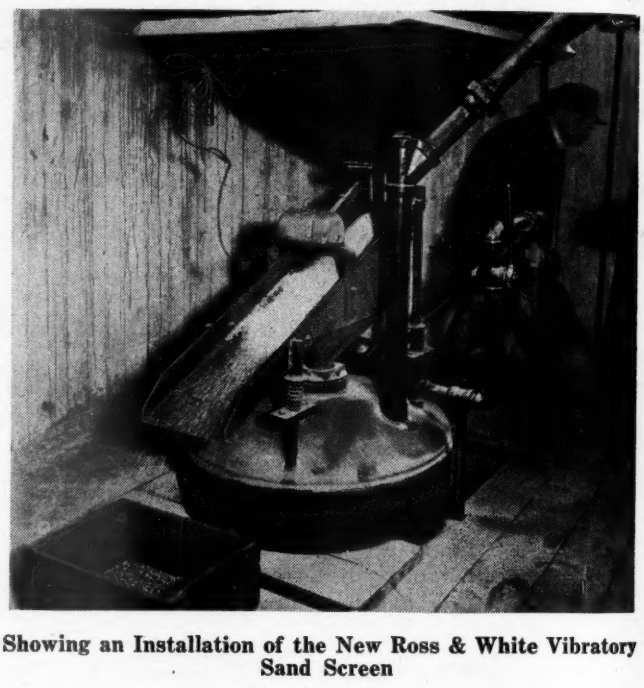
This design of slat-type steel rolling doors is composed of horizontal, interlocking steel slats. These doors open upward, coiling above the opening and saving floor and wall space The doors are counter-balanced for smooth, easy operation.



A Freight House Installation of Another Type of Kinnear Door, the Rol-Top, Which Is Composed of Horizontal, Galvanized Steel Sections

New Sand Screen For Sanding Plant

The Ross & White Company, Chicago, is building an automatic sand screen for its locomotive sanding plants which is a vibrating unit mounted on springs on the sand elevating compressed air drum. The screen has the proper inclination to receive dry sand from the gathering hopper under the steam sand dryer. In operating, the sand flows through a sliding gate located on the bottom of the hopper to the inclined screen. Mounted in connection with the screen is an electric vibrator which, when in motion, develops the proper vibration to screen out small stones thoroughly, thereby leaving the sand



Showing an Installation of the New Ross & White Vibratory Sand Screen

properly screened so that it will not clog the small air valve on the locomotive when forced to the rail.

This equipment is used in conjunction with a gravity sand plant, the wet sand being elevated from the track hopper in the skip bucket of a coaling station and by-passed through a round steel chute to the overhead wet sand storage bin, which holds a carload of sand, from which it is dried and flows through the screen to the elevating air drum.

New Basket For Ezy-Kleen Strainers

Featured by an increased straining area and rugged construction, a new basket strainer has been added to its line by Ezy-Kleen strainers by the Blackmer Pump Company, Grand Rapids, Mich. The basket is constructed of heavy-gage perforated sheet metal instead of wire mesh and is available in various size openings. The use of the perforated sheet is said to increase the net straining area up to 10 times the pipe line area, which exceeds the recommendations of the Hydraulic Institute by a substantial margin. Part of the gain in the straining area and reduced friction loss is achieved by the use of spot welding instead of soldering or brazing; the use of a perforated sheet also eliminates the need for the solid frame that is

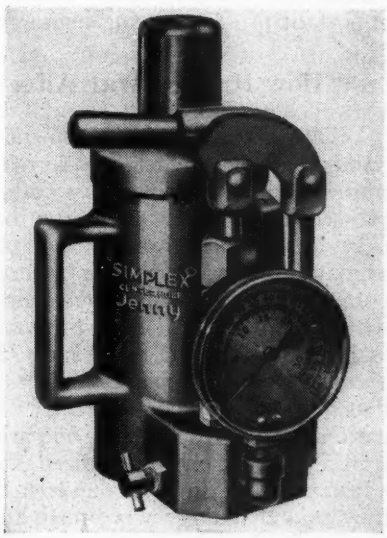
The New Basket Strainers are Made of Perforated Sheet with Welded Construction

used to stiffen the old wire-type mesh screens, thus permitting the liquid to flow through the screen more freely. The new strainer baskets are said to be able to withstand far greater abuse than the old wire-mesh screens, which were frequently damaged during cleaning.

Hydraulic Puller Is Industry Time Saver

Templeton, Kenly & Co., Chicago, has developed a center-hole hydraulic puller, which it calls the Simplex Jenny, which will push, pull or lift and can be rigged up easily as a portable press. The unit was designed as a means of saving considerable time in operations such as pulling bushings, cylinder liners, cutless bearings, pistons, wrist pins, valve seats, keys, wheels, sprockets, gears, boiler tubes and pipes. It may also be used in pulling structural members together for welding or riveting

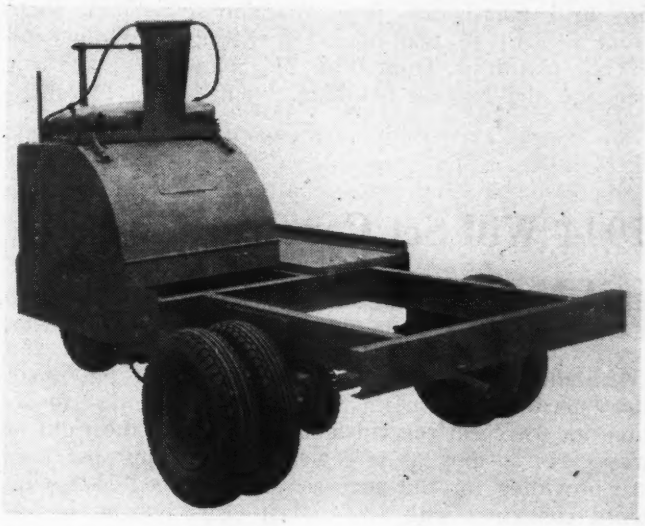
The Simplex Jenny operates vertically or horizontally without heavy auxiliary equipment, and without side thrust or friction. The unit provides its own back-up and is self-supporting because of its center hole construction. Five models are available, ranging from 30 to 100 tons' capacity, three of which are equipped with single pumps and two with high and low speed pumps which may be operated separately, alternately or together. Alloy steel rods are recommended for use with the unit, as it will stretch, collapse or pull apart any mild steel rod that will pass through the center hole. It is constructed of heat-treated alloy steel to withstand heavy loads and service abuse and each unit is tested for 50 per cent overload before shipment.



The Simplex Jenny Can Be Used to Push, Pull or Lift, and as a Portable Press

New Model B and Fire Fighting Chore Boys

The Buda Company, Harvey, Ill., has improved its ½-ton industrial shop truck, known as the Chore Boy, and has also developed a special type of this new improved shop truck for fire fighting. The new Chore Boy is designated as the Model B and differs from the former model in that a number of structural changes and refinements have been made in the frame and material composing the frame. In addition, a slight change in design has been made, including a greater use of welded construction.



The Fire Fighting Chore Boy Has Dual Rear Wheels, a Heavier Frame and a Load Capacity of One Ton

The Buda Chore Boy Can Be Used to Save Time in Handling Freight and Stores Around Terminals

The Chore Boy is a three-wheel, pneumatic-tired low platform, shop truck. It weighs 800 lb., has a load capacity of 1,000 lb., a loading space of 12.8 sq. ft., a length overall of 92 in., and a width of 37 in. The machine has a rounded front bumper, to enable it to pass through swinging doors unassisted, and an anti-skid steel deck. It is powered with a four-cycle, air-cooled, one-cylinder engine of 7.7 h.p with magneto ignition. It has a friction drive with one forward and one reverse speed. Speed is controlled by a foot throttle and the maximum speed is 15 m.p.h. The brake is an internal expanding type on the intermediate shaft and it is applied automatically when the operator leaves the truck seat.

The fire-fighting Chore Boy is a special adaptation

of the Model B, with dual rear wheels and a special rugged heavy-duty frame. The controls and the power unit are the same as on the regular Model B Chore Boy. The dual-wheel unit will carry a load of a ton at high speed and was designed specifically for carrying the latest types of fire-fighting equipment, such as mobile pumping units and first aid and other emergency equipment.

Based on the experiences of a large western railroad, this company has made an interesting study of the use of the Chore Boy in terminal operations, which shows large savings in man-hours in various types of work. This investigation developed that the use of the Chore Boy in passenger car icing reduced the man-hours from 24 to 6; in storehouse-to-roundhouse delivery from 4 to ¾ man-hours; in storehouse-to-rip-track delivery, 5½ to 1 man-hours; from roundhouse to back shop, from 7½ to ⅞ man-hours; for freight handling on L.C.L. platforms, from 6 to 2½ man-hours; and for baggage and express handling, from 4½ to 1¾ man-hours.

1944 Will Set Construction and Maintenance Record

(*Continued from page 497*)

desirability of eliminating non-essential work, most of those participating in this study indicated a determination not to repeat this mistake, but to keep the right of way clean as long as possible. For this purpose they are providing for the purchase of 231 weed-destroying units, compared with 130 in last years budget, in addition to which some of them also plan to use chemical destroyers, if the materials are available.

There has been a slight relaxation of the restrictions on structural steel and, since heavier locomotives and increased traffic are emphasizing weaknesses that were not previously giving trouble, there will be a noticeable increase in the renewal of lighter steel spans, in preference to attempting continued strengthening of these older spans. Likewise there will be a slight increase in the maintenance and renewal of timber bridges, although any large expansion of this work is still being retarded by continued restrictions on the use of structural timber. Some roads, however, still have some second-hand material from structures on abandoned lines and plan to use this so far as it will go. As an indication of the magnitude of this work, one road reported that it expects to replace about 20,000 lin. ft. of wooden trestle, of which 7,000 to 8,000 lin. ft. will be filled and retired.

On the whole, the budgets indicate only a moderate amount of bridge painting. The reason for this is, in part, that during 1941 and 1942, and to a less extent in 1943, a large volume of this work was done, so that present requirements are less. On the other hand, there will be relatively more paint applied to buildings, which will show a moderate increase over the last two or three years.

Expect W. P. B. to Allow Some Projects

In general, building maintenance will be more or less routine in character, except that considerably more than normal maintenance will be necessary in connection with the alterations and enlargements that are required for enginehouses, shops, freight-handling and other facilities that are now inadequate for the demands that are being made upon them. A number of officers said specifically that two factors are combining to restrict building maintenance to bare essentials—the shortage of labor and restrictions on lumber. These factors and the desire to apply such labor and materials as are available to projects that will tend to speed traffic, are also limiting the amount of station modernization that would otherwise be planned for the year. On the other hand, a few projects are considered so necessary that they have been included in the building plans for the year, and the prospects are that several of them will be allowed by the War Production Board.

Rail Replacement Grossly Inadequate

Despite the fact that a large part of the deferred maintenance that had accumulated during the depression years had been wiped out by the end of 1940, a substantial amount still remained with respect to rail, buildings, bridges and some other items. On the basis of gross ton-miles, rail renewals during the depression years were decidedly subnormal, but owing to the relatively light traffic during those years, the effect of this deficiency was not so pronounced as it would have been under normal traffic. On the same basis, since 1940, the replacement of rail has been grossly inadequate to offset the wear and tear of an almost incredible traffic moving at higher average speed than in any previous period. Because of this continued deficiency in rail renewals, the amount of deferred maintenance on rail increased rather than decreased during the year.

In general, maintenance of buildings was held to the minimum and, while their physical condition probably did not deteriorate to any marked extent during the past year, many of them remain in an advanced stage of obsolescence, and not a few still suffer from undermaintenance, and will continue to do so through the present year. It is probable that postwar demands will differ in many respects from those of the past, particularly so far as buildings serving the public directly are concerned, so that not only those that are now obsolete, but many that are more nearly up to date, will require replacement or modernization to fit them for the requirements that will arise in the postwar period.

Incidental mention has already been made of some of the items of work equipment that are included in the budgets for the year. As a further indication of the increased amount of work that the railways are planning to do this year, they have included 9,200 power machines and tools in their budgets, partly as an offset to the deficiency in labor which has become the most important problem facing maintenance officers.

How Has the War Affected the Budgets?

What part of the improvement and maintenance programs has been made necessary by the demands of war traffic? In answering this question some officers expressed inability to segregate that work which would have been done normally from that which is required primarily by war traffic. Other estimates of the proportion of long-term improvement programs ranged from 0 to 100 per cent, while the estimates of war-induced maintenance ranged from 5 to 75 per cent. However, a considerable number of officers stated quite definitely that all of the items in their improvement programs were essential to normal operation, and that the war traffic had merely emphasized their necessity and had advanced the time for undertaking them. Similarly, they said that there were no items in their maintenance

budgets that would not have been necessary under normal traffic, and that the war traffic, with its added wear and tear, had only increased the amount but not the kinds of work that must be done.

Substantially every officer who participated in this study emphasized the pressing need for all of the projects included in his improvement budget, and the equally pressing need for all of the work covered by his maintenance budget. Some said frankly that many of their present facilities are so inadequate as to place restrictions on the capacity of their roads to handle traffic. With equal frankness they said that wear and tear are running ahead of repair and that every item of work included in their maintenance budgets is essential to keep abreast of this constant wear, with no present expectation of building any reserve back into the property.

In discussing their budgets, a majority of these officers, while stressing the urgency of the need for carrying out the programs as proposed, expressed concern about their ability to obtain all of the materials that will be required for these purposes. They are determined, however, to complete the work that has been programmed unless prevented from doing so by shortages of material and labor that cannot be overcome.

More Men and Materials in 1944

(*Continued from page 493*)

essential for work programs. It is up to the supervision in the mechanical departments to give this subject the consideration it must have so that the material we actually require may be provided when needed. Proper ordering of material will also result in a minimum amount being carried on hand and the aim of all railroad managements is to keep stock balances at the minimum consistent with good management.

The salvaging and reclamation of used material is just as important as the careful ordering of new materials and such salvaged materials should be used before new stocks are drawn upon. The Baltimore & Ohio has a reclamation plant where couplers and other steel castings are reclaimed by welding and normalizing. By this method it is saving about 300,000 lb. of steel castings monthly. The reclamation of car parts is done strictly in accordance with AAR Rule 23, and, with increased welding being permitted in the interest of the utmost conservation of material, this figure should be substantially increased during the present year.

All reports indicate that, during the year 1944, we will be called upon to handle uprecedented movements of troops, supplies for the armed forces, civilian passenger traffic and general merchandise. These demands are occurring in the face of a waning manpower supply, which, it may be said, is now acute and promises to become more critical as the months pass. The War Manpower Commission, in conjunction with the Railroad Retirement Board, has established a plan whereby those seeking employment, who have had previous railroad experience or desire to obtain some, are referred to a railroad in the location where they are most needed. The agencies cannot be aware of the needs unless they are kept informed, as they should be, of the requirements for labor.

It is not my intention to convey the impression that we will be able to meet the labor shortage through these agencies. On the contrary, the number of available new employees in recent months has been very limited. But, any number of new employees we may be able to hire will help. With this limitation of possible new employees it is obvious that we must direct our attentions to retaining those employees we now have in the service and, when and wherever possible, to increasing production.

Notwithstanding the so-called "freezing" order of the War Manpower Commission, there are too many employees leaving railroad service. The reasons, when stated, are various. In some cases the leaving is justified, in others situations may be adjusted to the satisfaction of all and employees retained. The supervisor in charge should know the reason for any employee leaving service. Experience has shown that interviewing those who contemplate quitting may lead to an understanding and changed conditions which cause employees to reconsider their decision. (At this point Mr. Becherer discussed the supervisor's duties in hiring, assigning, training, encouraging and leading men—Editor).

There are a number of employees who are accepting annuities under the Railroad Retirement Act. In some cases this action is prompted by physical conditions, in others just by the desire to quit work. An attempt should be made to have those in the latter group continue at work, for the duration at least, pointing out in each case the importance of each and every one doing all that is physically possible during the present emergency.

Effect of Selective Service

Some are leaving railroad service involuntarily, most of them entering military service. The railroads have been designated as an essential industry but apparently this view is not shared by all local draft boards. It is appreciated that men are needed in the armed forces but I am sure you will agree that one may serve his country well if permitted to remain in transportation activities. In recent months, our experience has shown that a greater number of mechanics are being inducted. This may be due, in a measure, to the rulings with respect to induction of pre-Pearl Harbor fathers. You no doubt are requesting deferments in the manner prescribed by the law through the submission of DSS Form 42-A and subsequent appeal. I believe we can accomplish more if we keep the various boards acquainted with the critical labor situation existing on the railroads. We have found, at points where the supervision is in contact with the draft boards, that the boards are more sympathetic toward requests for deferments and the percentage granted is greater than at points where contact is not made so often. It has been suggested that even greater results are possible if the representatives of the various railroads in a territory appear jointly before the boards and present a general picture of the situation.

All of the foregoing will have an effect in improving the manpower situation but that is not all that is necessary. While we must do our part, the men in charge of the manpower situation at Washington must also do their part and I want to say at this time that the railroads of the United States as a whole face a serious catastrophe unless the manpower situation is remedied without delay. It is my opinion that the one essential factor facing the railroads today is the acute crisis impending from manpower shortage.

Railroads-in-War News

New Order Breaks Amortization Jam

Clears up problems developed between October 5 and December 17, 1943

Uncertainty as to the possibility of amortizing over a five-year period the cost of equipment obtained in the latter part of 1943 apparently has been removed by the terms of Executive Order No. 9429, dated March 2, which is an amendment of Executive Order 9406 of December 17, 1943, by which the chairman of the War Production Board was given authority to issue the certificates of war necessity which are prerequisite to acceptance of such amortization provisions by other government agencies.

Period of Uncertainty—Prior to October 5, 1943, appropriate certificates of war necessity for railway equipment and construction projects were issued, under authority from the President, by the Secretary of War and the Secretary of the Navy. Under the order of December 17 such certificates have been issued since that date by W. P. B. Chairman Donald Nelson. No provision was made at that time, however, to document the five-year amortization of work undertaken or equipment obtained between October 5 and December 17, and uncertainty over this situation not only had given rise to considerable concern on the part of railroads involved but reportedly had served to deter the placing of some orders for equipment for later delivery.

The March 2 order specifically sets forth the circumstances under which the Secretaries of War and the Navy and the W. P. B. chairman, respectively, shall act upon applications for certificates of war necessity. The officers first named are made responsible for action in the following cases: (1) all applications filed before October 5; (2) applications filed between October 5 and December 17, 1943, inclusive, dealing with facilities "the beginning of the construction, reconstruction, erection, installation, or the date of acquisition of which was prior to October 5"; and (3) applications filed between the same dates in connection with facilities "for which the applicant had made contracts for the construction, reconstruction, erection, installation or acquisition thereof prior to October 5."

The order further provides that the functions of the Secretaries of War and the Navy as to issuing such certificates of necessity shall cease as soon as they have acted upon all applications made in accordance with these terms.

Nelson's Sphere Defined—Power to issue the certification rests in the chairman of the W. P. B. in the following circumstances: (1) applications filed after December 17 describing work undertaken or equipment acquired before October 5; (2) applications filed after October 5 with the Secretaries of War and the Navy which were pending on December 17 and which refer to work not begun or equipment that has not been acquired; (3) applications filed after December 17 that concern "facilities, the construction, reconstruction, erection, or installation, of which has not begun or which have not been acquired; and (4) applications filed after December 17 "describing facilities for which the applicant had made contracts for the construction, reconstruction, erection, installation or acquisition thereof prior to October 5." As to the last named category, however, the order provides that the application must be filed before April 5.

In issuing certificates of war necessity covering work begun or equipment acquired after October 5 or contracts entered into after that date, the W. P. B. chairman is required by the order to determine, "prior to the beginning of the construction, reconstruction, erection, installation, or the date of acquisition of the facilities," that the work is "clearly necessary for the war effort."

Specialty Producers' Industry Advisory Committee

An Office of Price Administration industry advisory committee on railroad specialties, composed of eight executives of steel castings companies that together are said to produce some 98 per cent of all so-called railroad specialties—including such railway car parts as side frames, bolsters, couplers and yokes—will hold an organization meeting in Cleveland, Ohio, on March 17, the O. P. A. has announced.

The functions of this committee will be similar to those of the advisory committees representing many other industries. It will meet at the call of the chairman selected at the organization meeting whenever price matters affecting the industry arise under O. P. A. revised price schedule 41.

Members of the committee named in the O. P. A. statement are: Frank Cordes, president of the Pittsburgh Steel Foundry Corp., Glassport, Pa.; George T. Johnson, vice-president of the Buckeye Steel Casting Co., Columbus, Ohio; George E. Scott, vice-president of the Scullin Steel Co., St. Louis, Mo.; James Suttie, vice-president of the American Steel Foundries, Chicago; Harold Dunbar, vice-president of McConway & Torley Corp., Pittsburgh, Pa.; J. A. Sauer, vice-president of Symington-Gould Corp., Buffalo, N. Y.; James A. Slater, vice-president of the National Malleable & Steel Castings Co., Cleveland, Ohio; and Russell A. Cannon, vice-president of the Birdsboro Steel Foundry & Machine Co., Birdsboro, Pa.

Enlist Unions in Manpower Campaign

Plan co-operative drive to get 100,000 more people to fill vacancies

As a result of conferences of representatives of government agencies, the railroads, and railway employee brotherhoods, a Railroad Manpower Mobilization Committee has undertaken to co-ordinate a "manpower drive" to fill 100,000 current and impending job vacancies on the railroads, the Office of Transportation announced this week. The committee includes representatives of the railroad labor organizations, the Association of American Railroads, the O. D. T., the War Manpower Commission, the Railroad Retirement Board, and the Office of War Information.

Major Manpower Needs—According to the announcement, the major manpower needs of the railroads fall into these ten categories: Shop workers, such as machinists and blacksmiths; track workers; bridge and building mechanics; workmen for freight houses, stores and roundhouses; yard and road brakemen; locomotive firemen; clerks of all kinds; telegraphers, telephoners and towermen; signal men and signal maintainers; and marine workers, both licensed and unlicensed.

While the shortage of railroad labor is acute, the O. D. T. said that it is recognized in the industry that many of the jobs can be filled without extensive training, while others can be taken care of by upgrading or by "enlarged training programs."

Unions Will Recruit Workers—"The primary need," however, it was emphasized, "is for more men and women to join the ranks of railroad workers." In this connection it was pointed out that each of the groups represented on the manpower mobilization committee had undertaken to contribute specific services in the "manpower drive." The unions, it was explained, "have undertaken to promote recruitment through the active participation of their local lodges, and by encouraging their members individually to present the advantages of railroad employment through personal contact. Among these advantages were mentioned seniority rights in a permanent industry, vacation pay, "stable labor regulations," wide variety of available jobs, and government-administered retirement and unemployment insurance plans.

In connection with the campaign, it was said that the railroads are re-examining their employment practices in order to facilitate hiring, which will be done directly by the railroads and through the field of-

fices of the Railroad Retirement Board and the local offices of the U. S. Employment Service, an agency of the War Manpower Commission. According to the announcement, the railroads also are "preparing to step up their training programs, and to employ women in still larger numbers."

Congestion Threatened—The O. D. T. announcement included a statement attributed to Director Eastman, who was, however, according to O. D. T. sources, still absent from his office under his physician's orders to rest. This statement pointed out that, "while no serious tie-ups have yet occurred in the transportation of war materials or essential civilian goods, there has been some local congestion, caused by lack of manpower, and unless offset by remedial action, such congestion is bound to become serious.

"The magnificent job that is being done by the railroads—by both men and management—has won much public acclaim. It is well-deserved acclaim, for the railroads are carrying a greater load than ever before in their history and doing it with limited equipment and a shrinking labor supply.

Strain on Employees Increasing—"However, this record is being attained only at the cost of increasing strain upon our railroad workers. Present manpower is being stretched very close to the limit of its endurance. Yet the number of railroad workers continues to grow smaller owing to the other wartime demands on manpower. Those in government whose responsibility it is to effect the best possible distribution of the country's available manpower have given much thought to the problem of railroad manpower and are fully aware of the importance of recruiting additional railroad workers.

"Railroad transportation is so vital to the war effort that the campaign to replenish the railroad labor force assumes unusual importance. Railroading is hard, exacting, and responsible work, but few occupations have a more direct connection with the drive to victory than do those of keeping essential traffic moving. Railroad work is war work."

"Self-Help" Plan on Lakes—The O. D. T. also announced this week its approval of a "self-help" program prepared by the Lake Vessel Committee, an organization of Great Lakes carriers transporting bulk commodities, which is aimed at centralization of recruitment and manning arrangements and efforts to secure employment stabilization in connection with lake vessel operation. The committee plans to act as a central organization to handle draft deferment negotiations for its member companies, and hopes to be authorized to issue statements of availability for seamen seeking employment outside the lake industries. Other lake carriers and the unions involved have been invited to meet with O. D. T. representatives to discuss comparable plans to facilitate their recruitment and manning activities.

Troop Sleepers Completed

The last of the 1,200 triple-deck troop sleeping cars built for the Defense Plant Corporation by the Pullman-Standard Car Manufacturing Company was completed on March 6, four months after production started. This achievement, according to Ellis W. Test, assistant to the president, "is an example of what standard design can do to achieve mass production in the building of railway passenger equipment and thus trim costs and speed output." Under similar working conditions and built to customer specifications, Mr. Test added, it would have taken a year to produce the same number of passenger cars.

"Reefers" Shortage Forces Use of Ventilated Box Cars

Record demands on the refrigerator car supply have forced a more extensive use of ventilated box cars for the movement of citrus fruits by Florida railroads, Warren C. Kendall, chairman of the Car Service Division of the Association of American Railroads pointed out March 9.

This increased need for refrigerator cars has been brought about by heavier movements of perishables and canned goods for military and lend-lease purposes, and by diversion to the railroads of traffic which in peacetime moved by coastal steamships and in trucks, he explained.

"Shippers will be asked to accept ventilated box cars only in those cases where the destination areas will not subject the shipments to damage by freezing," he said. "The arrangement will be a temporary one and will end as soon as conditions permit. By using ventilated box cars where weather conditions permit, Florida citrus shippers are enabling the railroads to protect essential foodstuffs moving in colder climates."

Mr. Kendall stated also that the Car Service Division has issued an order to all railroads prohibiting the use of ventilated box cars in the North and requiring their immediate return to roads serving Florida, so that an adequate supply of such equipment can be maintained in the citrus-growing area.

O. D. T. Implements Enforcement of Orders in Puerto Rico

Willful interference with the enforcement of any order of the Office of Defense Transportation pertaining to the allocation of transportation equipment in Puerto Rico, or the use thereof, has been designated a misdemeanor, punishable by a fine up to $10,000, imprisonment up to one year, or both, under the provisions of Administrative Order ODT 20, effective March 7, issued by Brig. Gen. Charles D. Young, deputy director, acting under the authority of executive orders issued under the President's war powers.

I. C. C. Service Orders

Finding that delays in the movement of freight cars are resulting from holding for billing instructions, bills of lading, or shipping orders cars loaded with fresh, frozen, or salted meats, packing house products or by-products in straight or mixed shipments the Interstate Commerce Commission has issued Service Order No. 184, effective March 16, prohibiting railroads from supplying a freight car from any delivery track to a shipper of such commodities "unless and until" the shipper has furnished either (1) a bill of lading covering the particular car to be loaded at the original billing point, or (2) written assurance that such bill of lading will be furnished within 48 hrs. (Sundays and holidays not excluded) after the car is placed for loading.

The order further provides that, should a shipper "confiscate or appropriate" a car for loading without complying with these requirements, no further cars shall be supplied that shipper until he has furnished a bill of lading for the car involved. The order is made applicable to intrastate, interstate, and foreign commerce.

By Amendment No. 3 to Service Order 93, which deals with the use of so-called giant refrigerator cars, certain additional cars are excepted from the provisions of the order, on and after March 2.

The commission has denied a petition of the Secretary of War seeking exemption from certain provisions of Service Order No. 68, as amended, for shipments by or to any War Department installation or organization.

F.B.I. Arrests 31 in Florida Rail Ticket "Racket"

Charged with violations of the United States criminal code, 31 persons, including 16 railroad employees, have been arrested in Miami and Miami Beach, Fla., by agents of the Federal Bureau of Investigation as its first step toward breaking up "black market" operations in railway and Pullman accommodations.

J. Edgar Hoover, director of the F.B.I., was reported to have said that other arrests would follow in the Miami area and at other points in Florida, while the situation is under survey in all parts of the country for the purpose of bringing to light illegal practices in connection with the reservation and sale of rail accommodations. It is expected that those arrested will be prosecuted in the federal courts; meanwhile they have been released under bond.

Pocketed $500 Daily—One taxicab driver and 14 hotel employees were charged with conspiracy to violate the criminal code in connection with the sale of accommodations in excess of the standard published charge. It was explained that persons seeking space on trains leaving Florida have paid from $10 to $100 more than the regular tariff fares in order to obtain accommodations, with the result that the "take" of the group which is alleged to have operated the Miami area black market in rail and Pullman tickets has been estimated to have exceeded $500 a day.

Among the 16 railroad employees against whom the F.B.I. placed charges were two ticket sellers of the Atlantic Coast Line, seven ticket sellers of the Seaboard Air Line, and five ticket sellers or clerks and two diagram room clerks of the Florida East Coast. In case of conviction under the federal code, the maximum sentence, it was explained, is two years' imprisonment and a $5,000 fine for each violation.

O. D. T. Sought F. B. I. Aid—The services of the F.B.I. in breaking up black market operations in rail accommodations were sought by the Office of Defense Transportation several weeks ago, as noted in *Railway Age* of February 19, page 396. In referring to the arrests, Mr. Hoover

pointed out that the apparently profitable "racket" of selling tickets at a premium to those who could afford to pay has made it possible for the wealthy to obtain accommodations when they have been denied to the less affluent service men and their families and to others traveling for essential purposes.

In a letter to Mr. Hoover, Henry F. McCarthy, director of the O. D. T. Division of Traffic Movement, expressed his appreciation for the effective work of the F. B. I. in cleaning up the Miami situation and pointed out that an "organized black market" in rail reservations is believed to exist "throughout Florida." In view of the conditions uncovered in Miami, Mr. McCarthy expressed the opinion that a re-examination of the situation in other cities was warranted. Enforcement of local ordinances covering such cases "would probably be salutary in all major cities," he suggested.

Freight Traffic to California Ports Increases

The number of carloads of freight moved to points in California daily in February increased 7 per cent as compared with the peak month of October, 1943, or from 2,768 cars to 2,960, while during the first three days of March the number of cars has averaged 3,000 daily, according to W. F. Kirk, western director of the Office of Defense Transportation. In addition to this California traffic, the railroads handled 1,162 cars to the Pacific Northwest in February, as compared with 1,266 in October, 1943.

The handling of this increased traffic was accomplished under winter weather conditions and other factors which necessitated considerable rerouting. However, the number of trains operated was increased less than 2 per cent, compared with the number operated in October.

One of the major difficulties surmounted was caused by a fire in a tunnel on the Western Pacific, which disabled that line and necessitated the rerouting of 200 cars a day during the period from January 27 to February 13. By using Western Pacific motive power, other railroads were able to absorb this traffic. Conditions involving the movement of supplies to the front also necessitated some rerouting. The decrease in the number of cars shipped to the Pacific Northwest was due to a drop in lend-lease shipments.

The port situation at all points on the Pacific Coast continued favorable, despite a peak of 1,243 cars unloaded daily for export in February, 1944, compared with 917 in February, 1943, and 1,230 in October, 1943.

W. P. B. Relaxes Regulation of Cement Shipments

In a statement released March 6 by the War Production Board early suspension of "controls" over carload rail movements of Portland cement was forecast. Such action, it was pointed out, should not be taken to imply any easing of the "difficult" transportation situation, since it is expected that "demands upon all types of transport during 1944" will "substantially exceed" the 1943 movement.

Dr. William Y. Elliott, director of the W. P. B. Stockpiling and Transportation Division, indicated that the expected suspension of regulations setting up limitations on cement shipments would be ordered principally to correct a discriminatory situation, since cement is the only solid commodity subject to such control. Restrictions on shipments of many liquid commodities in tank cars also have been put into effect by this W. P. B. division, and it was not suggested that these controls would be relaxed at this time. If traffic conditions should demand it, Dr. Elliott said further, the restrictions on cement movements will be restored.

P. & S. Meeting in June

The Purchases and Stores Division of the Association of American Railroads will hold a two-day annual meeting at the Palmer House, Chicago, June 22 and 23.

Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since February 26, and which are of interest to railways:

Aluminum—Rules governing maintenance, repair, and operating supplies (MRO) under the CMP have been modified to make it possible for persons desiring to purchase aluminum for MRO purposes to obtain it in the the same manner that steel and copper in controlled materials forms and shapes are obtained.

In addition, the limit of 100 lb. of aluminum for MRO purposes has been eliminated. Under CMPR-5, as amended February 26, the only limit on amounts of aluminum that may be bought by a person eligible to use the MRO symbol is the purchaser's MRO quota. The special certification formerly required of purchasers is no longer necessary.

Industrial Equipment—WPB has issued a revised order L-123, placing a floor of AA-5 on preference ratings for the acquisition of various types of industrial equipment. By thus unifying several orders, it will draw under the one control many articles which have heretofore been subject to separate orders. Therefore WPB is revoking L-100 on compressors, L-172 on heat exchangers, L-246 on pumps, and L-280 on fans and blowers. These items are brought under L-123. In some of the revoked orders, permission to acquire was given on preferences as low as A-1c, but these are now obsolete.

The new order and the new floor of AA-5 will apply to the following: air filters; air washers; arc welding machines; baling presses; compressors; dust collectors; dynamometers; electric motors and generators; fans, blowers and exhausters; flexible metallic hose, tubing and fittings; heat exchangers; high pressure blowers; lifting magnets; oil filtering and re-refining machines; ovens, drying, curing and finish-baking types; paper shredders; pressure vessels, including air receivers; pumps; and stationary steam engines.

Southern Pine and Hardwood — Restricted Southern pine and hardwood lumber may be obtained through certification instead of through specific WPB authorization of purchase orders, when needed for production and repair of railroad rolling stock and passenger carriers, and production and shipping of steel and other controlled materials. Simplified procedure is established by Directions 4 and 5 to each of the orders M-361, controlling Southern yellow pine, and M-364, controlling seven specified species of hardwood.

Prices

Asphalt—Amendment No. 7 to MPR No. 323 (Asphalt and Asphalt Products) effective March 6, provides four principal changes in the regulation establishing ceilings for asphalt and asphalt products, none of which will increase prices to consumers:

(1) St. Paul and Minneapolis, Minn., are made new reference points for sales in those cities.

(2) A new ceiling price is established for light saturants when sold by refiners in the California area.

(3) Ceilings for roofing manufacturers who purchase oxidized asphalt in bulk and package it for resale will be determined by a new formula, comprising the seller's delivered costs, plus a charge for the container, plus a packaging differential, plus $3.50 a ton on sales to a jobber or distributor, and plus $4.50 a ton on sales to all other buyers.

(4) If a reseller other than a producer or roofing manufacturer from August 1, to November 1, 1941, or a reasonable time prior thereto, had a higher mark-up than $2.50 per ton on sales of a particular asphalt product to a particular buyer, on shipments direct from the producer to the buyer, he may use the higher mark-up upon written approval of OPA, provided he can demonstrate that he customarily maintained this higher mark-up on sales of asphalt to this customer.

Rubber Coated Fabrics—Order No. 25 under MPR-478 (Coated and Combined Fabrics) effective February 28, provides manufacturers of rubber coated fabrics with a method of establishing ceiling prices on products containing a substitute synthetic rubber material which is more expensive than the one which they have been using. The Office of Rubber Director recently ordered manufacturers to discontinue the use of neoprene in the production of these fabrics, which are under the coated and combined fabrics regulation.

Where Buna-N synthetic is substituted for neoprene GR-M or GN in the manufacture of these products, (Buna-N is approximately double the price of neoprene) manufacturers now are allowed, to add to the former maximum prices an amount not exceeding the increase in synthetic rubber materials cost resulting from the substitution. Previously, such manufacturers were required to file individual applications for price approval for each specific item.

Lumber Ceilings Lowered—Reductions ranging up to $3 per M. b. m. will result in ceiling delivered prices for Appalachian Eastern spruce, hemlock and white pine with the establishment of Cass, W. Va. and Bristol, Tenn.-Va. as basing points for use of distribution yards in computing ceiling prices the OPA announced recently.

At the same time OPA ruled that beginning March 10, Amendment No. 2 to second RMPR-215 will limit the distribution yard mark-up on lower grades of softwood lumber to $5 and 10 per cent. Previously yard mark-ups on these grades ranged up to $5 and 25 to 50 per cent.

The lower mark-ups are applicable to the following: Southern pine lumber, all items lower than No. 2 box grade; Douglas fir lumber, all items and grades of No. 4 common and lower; Western pine lumber, all items and grades of No. 5 common and lower, including No. 3 dimension; Northeastern softwood lumber, Northeastern white pine, all items and grades of No. 5 common and lower; Eastern spruce, all items and grades below No. 3 common; jack pine, all items and grades below No. 3 common; Norway pine, all items and grades below No. 3 common; hemlock, all items and grades of No. 5 common and lower; Ottawa valley white pine, all items and grades of No. 6 common and lower; Northern softwood lumber, hemlock, all items and grades of No. 6 common and lower; Northern white pine, all items and grades of No. 6 common and lower; Norway pine, all items and grades of No. 6 common and lower; jack pine, all items and grades of No. 6 common and lower; aspen, all items and grades below No. 5 common; Canadian Western white spruce, all items and grades below No. 5 common; Redwood lumber, all items and grades lower than No. 3 common; Sitka spruce lumber, all items and grades lower than No. 3 common; Western red cedar, all items and grades of No. 4 common and lower; Tidewater red cypress lumber, all items and grades poorer in quality than the lowest standard grade established by the rules of the Southern Cypress Manufacturers' Association.

A new method for determining distribution yard ceilings for pressure-treated softwood lumber also was announced.

GENERAL NEWS

Anti-Trust Complaint Filed Against N.Y.C.

Action also names U. S. Freight and its forwarder and truck affiliates

The Department of Justice's anti-trust division on March 3 filed in the United States District Court at New York an anti-trust complaint against the New York Central, the United States Freight Company and seven forwarder and 12 motor truck affiliates of the latter. Also named were the Linden Securities Corporation, owner of the United States Freight stock alleged to be controlled by the New York Central, and former Interstate Commerce Commissioner Balthasar H. Meyer, as trustee of the Linden holdings.

Mr. Meyer was made trustee for this Linden-owned U. S. Freight stock in compliance with the Interstate Commerce Commission's report in the freight forwarding investigation. The forwarding companies named in the complaint include the Universal Carloading and Distributing Company and its affiliates.

Control of U. S. Freight Alleged—The complaint alleges that the New York Central controls U. S. Freight and through it the various freight forwarders and motor carriers named; that the railroad has caused these forwarders to use its facilities and those of the motor carriers without attempting to seek lower charges or better services than were thus afforded. It further alleges that the defendants, including the New York Central through U. S. Freight, have conspired to obtain control, and have obtained control, for the railroad of numerous companies engaged in freight transportation with the intent and effect of subordinating their functions to the interests of N. Y. C. and of restraining competition in the transportation of freight in the territory served by the railroad.

It is asserted that there was paid to the New York Central for freight transportation by its "controlled freight forwarders" in 1941, 1942, and the first three months of 1943 approximately $17,000,000; and in the same period the largest payment by them to any other railroad amounted to approximately $1,765,000.

Would Require Sale of Stock—The complaint asks that the alleged violations of the Sherman Anti-Trust Act be enjoined. More specifically, it would have the court require the New York Central to divest itself "of all interest in or control over the United States Freight Company and the various defendant freight forwarders and motor carriers." To accomplish that purpose it asks that the Linden Securities Corporation's United States Freight stock, held by Mr. Meyer as trustee, be disposed of in the open market by competitive bidding to a purchaser not connected with the New York Central, U. S. Freight Company, or any of their affiliates or subsidiaries.

Allegheny Regional Board To Meet March 16

Sidney L. Miller, assistant to the deputy director, Office of Defense Transportation, will address the 17th annual meeting of the Allegheny Shippers' Regional Adivisory Board in Pittsburgh, March 16, at the William Penn Hotel.

At the morning business session C. R. Megee, manager of the Open Top Car Section, Car Service Division, Association of American Railroads, will discuss the national transportation situation. Talks also will be given by E. A. Jack, general traffic manager, Aluminum Company of America; John B. Keeler, assistant general traffic manager, Koppers Company; and Charles F. McBride, general traffic manager, Pittsburgh Steel Company.

There will be an election of officers, reports by various committees, and a forecast of business in the territory for the second quarter of the year. E. C. Jepson, general chairman of the shipper organization and general traffic manager of the Wheeling Steel Corporation, will preside.

Meetings of several of the Board's committees will be held on Wednesday, March 15, also at the William Penn.

Commemorating "Big Bill" Egan

A plaque, bearing his likeness, and in memory of the late William H. ("Big Bill") Egan, general station master, Pennsylvania Station, New York, was unveiled in the train concourse, March 8, before officers and employees of the Pennsylvania. The presentation to station employees was made by J. B. Jones, superintendent of the New York division. Homer Lynch, one of five of the station's original red caps, accepted the plaque for the employees.

Mr. Egan, who died August 31, 1943 (his obituary was reported in the *Railway Age* of September 4) had been station master since the opening of the structure in 1910, and an employee of the P. R. R. for 58 years.

Hearing on Spotting Charge Bill Is Postponed

Public hearings on the bill (S. 1492) introduced by Senator Brooks, Republican of Illinois, to provide that published freight rates shall include placing of cars at points of loading or unloading, which had been set for March 8, have been indefinitely postponed by the subcommittee of the Senate committee on interstate commerce.

January Net Income Was $45,400,000

Net railway operating income for that month was $82,823,915

Class I railroads in January had an estimated net income, after interest and rentals, of $45,400,000 as compared with $62,979,830 in January 1943, according to the Bureau of Railway Economics of the Association of American Railroads. The month's net railway operating income, before interest and rentals, was $82,823,915, compared with the $105,089,143 reported for January, 1943.

The A. A. R. statement pointed out that January was the eighth consecutive month in which the net earnings of the carriers showed a decline as compared with the previous year.

Return Less Than 5%—For the 12 months ended January 31, the rate of return on property investment averaged 4.96 per cent compared with a rate of return of 5.72 per cent for the 12 months ended January 31, 1943.

Total operating revenues in January, amounted to $740,671,731 compared with $671,322,837 in the same month in 1943, an increase of 10.3 per cent. Operating expenses amounted to $504,013,073 compared with $424,178,429, an increase of 18.8 per cent.

Taxes Up $11¾ Million—Class I roads in January, paid $138,969,465 in taxes, an increase of $11,742,741 or 9.2 per cent. Twenty-two Class I roads failed to earn interest and rentals in January, of which 11 were in the Eastern district, two in the Southern region, and nine in the Western district.

Class I roads in the Eastern district in January had an estimated net income of $16,800,000 compared with $23,603,237 in the same month of 1943. Their net railway operating income was $32,645,919 compared with $40,339,611.

Gross in the Eastern district in January totaled $324,913,077 an increase of 8.6 per cent compared with the same period in 1943, while operating expenses totaled $236,649,310 an increase of 17.3 per cent.

In the South and West—Class I roads in the Southern region in January, had an estimated net income of $10,300,000 compared with $13,361,153 in the same period of 1943. Their net railway operating income was $14,411,720 compared with $18,231,591.

Operating revenues in the Southern region in January totaled $109,150,743 an in-

(*Continued on page 519*)

Dispatchers Get Raise and Paid Vacations

Mediation settlement follows pattern of recent award to non-op employees

Demands made upon Eastern and Western railroads by the American Train Dispatchers Association on June 15, 1943 were settled on March 4, after mediation that was started by the National Mediation Board at Chicago on February 28. Mediators were the three members of the board—Chairman W. M. Leiserson, George A. Cook and Harry H. Schwartz. The settlement follows the same pattern used in the non-op case and is permissible under the orders and regulations of the wage and salary stabilization program.

It's Another "In Lieu" Raise—Under the agreement, the basic monthly rates of pay of train dispatchers are increased $9.60 a month, or 4 cents an hour, for the period from February 1, 1943 to January 1, 1944 and $12 a month or 9 cents an hour, effective on the latter date. As in the Non-op case, the supplementary increase will be paid as the equivalent of or in lieu of claims for time and one-half pay for time worked over 40 hours per week and will be paid until the cessation of hostilities and then any changes will be in accordance with the Railway Labor Act. Although the supplementary wage increase is in lieu of overtime payments based upon 40 hours a week, overtime after 8 hours in a day will be paid. The increases granted also include compensation paid as the equivalent or in lieu of claims for meal period and overtime for transfer time demanded by the dispatchers.

Effective January 1, annual vacations of two weeks with pay will be granted dispatchers who have been in service not less than 160 days during the preceding calendar year. If a vacation is not afforded, payment in lieu thereof will be made not later than the first payroll period in January of the following year.

The Employees' Demands—In their demands of June 15, 1943, the dispatchers asked for a uniform rate of $400 a month for chief train dispatchers, $375 for assistant and night chief dispatchers and $350 for trick dispatchers. At the same time, they sought to include the meal period and transfer time in a basic eight-hour day and asked for three weeks vacation with pay. In addition, a broad program for sick leave with pay was proposed.

It was also demanded that dispatchers awarded promotions, under terms of the agreement, be placed on the job within seven days after appointment or be paid overtime rates for each day's delay. During mediation discussions, representatives of the employees claimed that some railroads were unnecessarily holding up the placing of dispatchers in positions to which they have been assigned. Although the new agreement contains no rule on this proposal, the Eastern and Western Conference Committees of the carriers stated that they would recommend to the railroads that they make every reasonable effort to place dispatchers promptly.

A. A. R. Names Adviser on Technical Research

The Association of American Railroads has engaged Clyde Williams, director of the Battelle Memorial Institute at Columbus, Ohio, as technical consultant to advise the railway industry on research matters, John J. Pelley, A. A. R. president, announced March 9.

Mr. Williams will make a study of the railroads' technical problems with a view to co-ordinating and organizing research relating to technological methods and processes, it was explained. His office will be located at 59 East Van Buren Street, Chicago.

Experienced in industrial research, Mr. Williams has had much to do with the organization and conduct of investigations now being carried on in different industries, and he is chairman of the War Metallurgy Committee which is advising the War Production Board and other war agencies of the government.

Geared Hand Brakes

Following the adoption of specifications for geared hand brakes by letter ballot last year, the various manufacturers of geared hand brakes were invited to submit their brakes for test and make application for certificate of approval. As of February 18, the secretary of the A. A. R. Mechanical Division announces that satisfactory tests have been conducted and certificates of approval awarded by the Committee on geared hand brakes to the following manufacturers: Ajax Hand Brake Company, Type Designation Drawing 14038; Champion Brake Corporation, Dwg. 1148; Champion Brake Corporation, Dwg. 1124; Klasing Hand Brake Company, Dwg. D-959; W. H. Miner, Inc., Pattern D-3290-X; Superior Hand Brake Company, Dwg. 566; Universal Railway Devices Company, Dwg. 4885; Universal Railway Devices Company, Dwg. 5550; Universal Railway Devices Company, Dwg. 5700. This supersedes a list appearing in a circular letter dated January 3, 1944.

New York Railroad Club "Electrical Night"

John V. B. Duer, assistant to vice-president, operation, Pennsylvania, and Samuel G. Hibben, Westinghouse Electric & Manufacturing Co., will be guest speakers at the New York Railroad Club's "Electrical Night" meeting, March 16, Engineering Societies building, 33 West 39th street, New York.

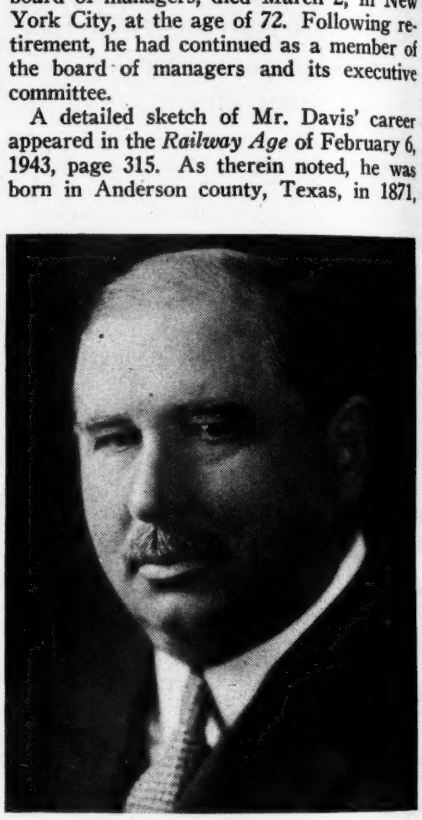
In discussing "Electrical Train Operation on the Pennsylvania," Mr. Duer will outline the provisions made for handling an enormous volume of traffic and the manner in which such plans have coincided with demands. Mr. Hibben will talk of "Unique Lighting Tools for Tomorrow's Jobs," and will demonstrate developments which may some day "come out of the laboratory and into the realm of everyday use."

J. M. Davis Dies; Was President of D.L.&W.

Served 15 years in position and was later chairman of road's board

John Marcus Davis, who for 15 years was president of the Delaware, Lackawanna & Western, and for two years prior to his retirement in 1943, chairman of its board of managers, died March 2, in New York City, at the age of 72. Following retirement, he had continued as a member of the board of managers and its executive committee.

A detailed sketch of Mr. Davis' career appeared in the *Railway Age* of February 6, 1943, page 315. As therein noted, he was born in Anderson county, Texas, in 1871,



John Marcus Davis

and first entered railroad service on the San Antonio & Arkansas Pass in 1899. For the next 15 years he was associated with a number of western railroads, and in 1916, was appointed vice-president in charge of maintenance and operation of the Baltimore & Ohio.

During the period of federal control of the railroads, he functioned as a member of the general managers' committee and as manager of the B. & O.'s New York terminals. Immediately preceding his D. L. & W. presidency, Mr. Davis had been president of Manning, Maxwell & Moore, Inc., machinery manufacturers, in New York.

A director at the time of his death of the Lehigh & Hudson River, the Green Bay & Western and the Western Electric Company, Mr. Davis had been prominent in various civic positions. During the New York World's Fair, he was chairman of the Railroads' Fair Committee. He had served as director of the Cancer Research Fund, the New York Travelers' Aid Society and the Municipal Art Society, and was a former vice-president of the New York State Chamber of Commerce.

Favors Full-Cost Basis For Competitive Rates

I. C. C. staff report on truck costs also hits I. C. C. accounting rules

Exercise by regulatory authorities of their minimum-rate powers to fix competitive transportation rates on the "full cost" basis is advocated in a report on "Cost Determinations Applicable to For-Hire Motor Transportation" which has been submitted to the Board of Investigation and Research by J. Frank Dickson, Jr., one of the board's principal transportation analysts. The report, which develops "a uniform system of cost-finding" for the transportation of property by motor vehicle, is now being distributed by the board "for the purpose of receiving comments from interested and qualified parties."

Criticizes I. C. C.—Mr. Dickson came to the board from the H. B. Church Truck Service Company, Boston, Mass., where he was assistant treasurer. His study is part of the board's general investigation of the relative economy and fitness of the various agencies of transport. Aside from his advocacy of the full-cost idea in competitive rate making, Mr. Dickson makes repeated criticisms of the Interstate Commerce Commission's classification of accounts for its failure to provide readily-usable cost data.

The report covers 166 double-spaced mimeographed pages. It is divided into three parts, discussing in turn "The Problem of Competition and Its Influence on Cost and Rate-Making Policies"; "Control and Use of Costs in Motor Transportation"; and the "Mississippi Valley Study." The latter developed figures on truck operating expenses within the Mississippi Valley during the year ended December 31, 1940, and the data it furnished were applied to the cost-finding formulae devised by Mr. Dickson. This statistical material is set forth in a separate volume accompanying the report.

The Cost Formulae—The formulae develop what Mr. Dickson calls "precise cost information" by going in for various refinements which segregate truckload from less-than-truckload costs and further break down each of them into costs for various loads and lengths of haul. The final results are expressed in costs per 100 lb. In the less-than-truckload category, for example, the cost per 100 lb. is put at $1.2907 for a 20-mile haul with a load up to 100 lb. The cost per 100 lb. for the same haul with a load of 7,000 lb. is put at 19.64 cents. For a 400-mile haul with a load of 7,000 lb., the cost per 100 lb. is put at 37.28 cents.

The figures for truckload shipments show that the cost per 100 lb. of a five-ton load moving 10 miles would 5.55 cents. If the same load moved 100 miles, the cost per 100 lb. would be 13.75 cents. The added cost per 100 lb. for each additional 10 miles beyond 100 would be 1.05 cents. The cost per 100 lb. of a 10-ton truckload moving 10 miles would be 3.77 cents; while it could move 100 miles for 8.2 cents per 100 lb. Each 10 miles above 100 would add 5.8 mills to the cost per 100 lb. Also, the formulae provide for showing separately the costs of pick-up and delivery operations.

Rejects Over-all Averages—As the foregoing indicates, Mr. Dickson has undertaken to assign costs as directly as possible to the operations in which they are incurred. His disposition to avoid over-all averages is reflected when he says: "The system-average vehicle-mile or per-ton-mile cost cannot be a true measure of costs if operations consist of both long and short hauls. Neither are the results accurate when line-haul costs are combined with costs of terminal, pick-up and delivery, or the loading and unloading of single pick-up and deliveries."

Meanwhile Mr. Dickson had aired his views on competitive rate-making, asserting that "competitive rates or charges that are on a level lower than cost plus a reasonable return are not a public benefit, and if such rates or charges are applied in all the operations of a carrier, then carrier destruction is inevitable." The problem of "destructive competition," he says later, "can never be solved until all modes of for-hire transportation conform to cost-of-service principles."

For "Free Enterprise," But—He then goes on to complain that "in the absence of reliable cost data, contrary to the interest of the public and of the transportation industry as a whole, the commission has consistently burdened our competitive transportation agencies with 'monopoly' rate regulation." Summing up this phase of his report, Mr. Dickson comes out for "free enterprise in the transportation field coupled with fair competition," which to him means that "it is not in the public interest to allow any carrier to reduce its rates below cost to meet the rates of, or threaten, competing carrier agencies which are operating on a profitable basis in a field in which they economically excel."

"In determining the relative economy and fitness of each mode of transport on competitive hauls and commodities first consideration must be given to the full cost of each," he adds. "It must be assumed also that each kind of traffic will carry its proportionate share of fixed expenses. Consequently, no consideration should be given to any agency's potential ability to discriminate by means of transporting one commodity at less than cost while causing another to pay an extra amount to cover the difference. The railroad's policy of reallocating fixed costs to noncompetitive hauls and commodities in order to meet the rates of carriers operating in a field in which they excel from a cost point of view is not only unsound but actually increases the physical range of the competing carrier agencies."

Cost Data Lacking—But while he thus believes in the "full cost" theory, Mr. Dickson does not think the regulatory bodies have yet obtained the desired accurate cost information. Until they do, and "all forms of transport are prepared to use it on a comparable basis," he concedes that it would not be of public benefit to fix minimum rates based on cost for any one type of carrier "without first giving proper consideration to rates of competing carrier agencies." And there follows the criticism

(*Continued on page 518*)

Sees Variable Trends in Railway Statistics

Analysis shows tendency of liabilities to close up on assets

A "vast improvement in the railway financial situation" is reflected in the changing ratios of aggregate deficits to aggregate net incomes reported over the past six years, the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission points out in the latest issue of its Monthly Comment on Transportation Statistics.

Whereas in 1938 aggregate net deficits amounted to 202.5 per cent of aggregate net incomes, in 1943 the sum of the deficits amounted to only 0.73 per cent of the aggregate incomes, the bureau discloses. The figures for the intervening years were as follows: 1939, 56.8 per cent; 1940, 33.28 per cent; 1941, 4.75 per cent; and 1942, 1.18 per cent.

A Plug for Consolidated Statements—In spite of the small relative importance of the deficits reported in 1943, eleven Class I line haul railways showed a deficit in this busy and relatively prosperous year. This condition is essentially a matter of accounting procedures, however, the bureau points out, since six of the deficit-reporters are undergoing reorganization and four are subsidiaries of companies that report a net income. In one other instance local traffic conditions are responsible for the deficit. Six other reporteing railways report a zero net income, it goes on to say, as the result of contributions from controlling companies that wipe out earnings deficiencies. The existence of such situations, the bureau remarks, "emphasizes the desirability o fhaving statistical reports on a consolidated system basis," as well as by separate operating companies.

Although Class I line haul roads at the end of 1943 had much more cash than they had one year earlier, their accrued liabilities on account of taxes and wage increases also had increased sharply, with the result that, while current assets had increased more than current liabilities by nearly $288 million, the ratio of assets to liabilities declined in the one-year interval from 1.71 to 1.53, the bureau comments.

Revenue Indices for January—For the 12 months ended with January, 1944, total operating revenues amounted to $9,-124,073,-273. Continuing a trend exhibited in the preceding month, January freight revenue, while below that of December, 1943, in absolute amount, was on a higher level, considering seasonal differences under wartime conditions, than in December or, in fact, in any month since August, 1943. Expressed in terms of the bureau's index figures, which are based on the 1935-1939 average as 100, but adjusted for seasonal swings in line with wartime circumstances, the Jauuary freight revenues reached 227.8, as compared to 220.5 in December, 214.4 in October, and 229.3 in August.

Passenger revenues for January, however, both in absolute amount and in terms of the

bureau's index figures, showed a decrease as compared to any recent month, though the actual revenue was 25.4 per cent more than in the same month last year. The adjusted index figure for the January, 1944, passenger revenue was 407.9, the lowest since April, 1943; the December figure was 422.6.

Effects of Wage Adjustments—Reflecting higher wages and prices and "a somewhat lower freight rate level," the operating ratio for January of this year was 68.0, in contrast to 63.2 for the same month last year, the bureau remarks. Another indication of the effect of wage increases is seen in comparative maintenance account totals. The total charge for amortization of defense projects was $13,060,147 in January, 1944, or somewhat more than the monthly average of $12,131,892 for the year 1943. These amortization figures are included in the bureau's non-cash items of maintenance expense, others being depreciation, retirements, deferred maintenance, and "equalization" (that is, the difference between the actual and the budgeted maintenance expenses), which altogether amounted to 21.2 per cent of the $218,682,933 charged to maintenance of way and equipment expense in January. As compared with the same 1943 month, the non-cash items were 9.5 per cent greater, while the other items, more directly reflecting wage increases, were 24.5 per cent larger.

Turning to another element in the railroads' financial situation, the bureau points out that, in spite of a decline in total available income, the ratio of income to fixed charges was better in 1943 than in 1942, the respective figures being 2.55 as compared to 2.47. The significance of this change is somewhat affected, however, it explains, by the fact that about half the decline of $43,729,562 in fixed interest charges, which contributed to the improvement, resulted from an abnormal accrual by the Seaboard Air Line in 1942. While there was also a decline of $15,657,040 in rents for leased roads and equipment in 1943 as compared with 1942, this again is in effect not a significant item, according to this analysis, since it is almost entirely the result of reports reflecting intra-system accounting on one road, the Southern Pacific.

Carloading and Tonnage Trends—While carloading figures recently have not been regarded as a reliable index of railroad traffic, the bureau finds evidence that figures for loadings of carload freight are now running much more closely than in the recent past to the figures for tons of freight handled. In December, 1943, carloadings of carload freight increased 8.0 per cent over the corresponding 1942 month, while tons (both carload and l.c.l.) increased 7.8 per cent. In contrast, the comparison of 1942 with 1941 indicated an 8.8 per cent increase in the carloading figure and a 23.0 per cent increase in the ton figure. The percentages for tons and ton-miles also have tended to come more nearly together recently, it adds.

The bureau also undertakes to measure the importance of U. S. government traffic as reflected in railway revenues. For the fiscal year ended June 30, 1943, it points out, estimated government expenditures for freight transportation (including express) totaled $1,200,000,000, while an additional $750,000,000 was paid for passenger transportation. After final settlements are reached, however, the comptroller general expects to recover 10 per cent of the freight and 2 per cent of the passenger payments, leaving a total net expenditure for the year of $1,815,000,000. This total is for all transport agencies utilized, but does not include the cost of railway mail or air mail service. The government's net transportation expenditure is thus calculated by the bureau as 16.33 per cent of the operating revenues for the same period of all common carriers reporting to the commission.

Vacates Show Cause Order for Gallup, N. M., Signals

The Interstate Commerce Commission's show cause order served on the Atchison, Topeka & Santa Fe in connection with that road's automatic block signal installation at Gallup, N. M., as noted in *Railway Age* of February 12, page 364, has been set aside by order of Chairman Patterson, since the road has installed continuous track circuits at that point which meet the requirements of the commission's order of April 13, 1939.

Trans-Missouri-Kansas Board Meeting

In recognition of the outstanding wartime job of the railroads, the Trans-Missouri-Kansas Shippers' Board will hold a Railroad Presidents' Day at the Hotel Jefferson in St. Louis, Mo., on March 22. This will be the annual meeting of the organization.

Invitations to attend have been extended to the heads of 36 railroads in the board's territory, and the principal speaker will be William M. Jeffers, president of the Union Pacific. Mr. Jeffers will speak on Transportation Problems at a luncheon sponsored jointly by the board and the Traffic Club, the Women's Traffic Club, the Junior Traffic Club and the Chamber of Commerce of St. Louis. Highlights of the board's business session will include committee reports, election of officers and a talk on national transportation conditions by L. M. Betts, manager of the Railroad Relations Section, Car Service Division, Association of American Railroads.

Urges Specific Rules Covering Yard Limit Operations

A head-on collision between two diesel-electric locomotives, each attached to a cut of freight cars, on the Carbon County on January 22 was the result of the road's "failure to provide operating rules for the movement of its trains and engines," according to the report of the Interstate Commerce Commission's investigation under the supervision of Chairman Patterson. Two employees were killed and one injured in the accident.

Men Instructed Orally—Until December 16, 1943, operations on this 10.83-mile line had been performed by the crews and engines of the Denver & Rio Grande Western., and that road's rules had prevailed. Upon assuming operation of the line on that date, the Carbon County's employees were orally instructed that the entire line was within yard limits and its operations governed by yard rules, but written instructions had not been issued.

The collision occurred at a point where the view of approaching trains was restricted by curvature and embankments to about 400 ft. The crew of one locomotive, which was engaged in switching operations in which it had moved onto the main track, understood that all trains on the main track were required to be operated so that they could stop short of another train or obstruction. This train was stopped before the collision occurred. The crew of the other locomotive, which was moving at a speed estimated between 15 and 25 m.p.h. when the accident took place, understood that flag protection was required when switching movements took a train from the yard to the main track.

Should Prescribe Rules—Subsequent to the date of the collision, the commission's report pointed out, bulletins were issued indicating that the entire line was within yard limits, and the speed authorized was 12 m.p.h. A book of rules was received from the printer February 24, it went on to say, but "these rules do not mention switching limits nor prescribe method of operation of trains and engines within switching limits." A lack of common understanding of the method of operation under these rules was disclosed, the report continued, and it recommended that, "in order to prevent another similar accident, the operating officials should immediately take necessary action to prescribe adequate operating rules and to obtain among the officials and employees a common understanding of the rules."

Keeps Deming, N. M., Maximum in Ocean-Rail Rates

Terming the proposal unduly prejudicial and not consistent with the national transportation policy, Division 3 of the Interstate Commerce Commission has ordered cancelled a tariff change proposed by railroads serving the Southwest, the effect of which would have been to eliminate a provision that ocean-rail and rail-ocean-rail rates from Atlantic seaboard territory to points in Arkansas, Louisiana, Oklahoma and Texas shall not exceed the rates from the same origins to Deming, N. M.

The division's report points out that under the so-called intermediate rule the Deming maximum rate provision still would apply, under the proposed schedule, at intermediate points on the direct routes of the Southern Pacific and Atchison, Topeka & Santa Fe lines in connection with the Morgan Line and Southern Steamship Co., but would not apply to intermediate points on other routes in connection with these two steamship lines, or to points on any route in connection with other steamship lines, since these other lines do not participate in tariffs naming through rates from Atlantic ports to Deming.

Higher Rates Proposed — Except where the intermediate rule would still apply, the proposal would result in the application of higher joint rates specifically named in the tariffs. Such "disruption" of the long-established equalized ocean-rail rates from north Atlantic ports to the Southwest, the division held, would constitute a violation of section 3(1) of the

nterstate Commerce Act, which makes nlawful "undue prejudice and preference n any respect whatsoever' as between orts or port districts or any particular escription of traffic."

In short, the report adds, the effect of the roposal would be disadvantageous to ship- ers who use ocean-rail routes from At- antic coast ports to the Southwest. More- ver, "it would also render more difficult he resumption of coastwise operation by ertain steamship lines by restricting the estination area to which competitive traf- ic would move in connection with those ines at rates lower than those over the ll-rail routes." The national transporta- ion policy requires the commission to recognize and preserve" the "inherent ad- antages of each mode of transportation," nd to foster all of them, the division says urther, and it does not find the proposal n keeping with that policy.

The proceeding, docketed as I. & S. No. 110, grew out of the suspension of sched- les filed to become effective February 25 nd 26, 1942, but held in abeyance pending isposition of the case. Objections to the roposal were offered by various coastwise teamship lines, and shipper, port and com- ercial organizations, both in the South- west and on the Atlantic coast. The rail- oads supporting the proposal contended, mong other things, that the commission id not have authority in the circumstances, ince the steamship services in connection with which the joint rates apply had been iscontinued due to war conditions. The ivision held, however, that the joint rates re still effective, since the suspension of ervice is temporary and practically all of he steamship lines involved have obtained ommission certificates to resume opera- ions when conditions permit.

Freight-Car Floors Are Defective

A joint circular letter, issued under date of February 25 by the secretaries of the A. A. R. Operating and Mechanical Divi- ions, states that the railroads are faced with a serious situation brought about by commodities falling through the floors of reight cars onto the track and, in some nstances, causing derailments. This hazard s further increased by the character of the commodities being carried in connection with the war effort.

Reports received regarding these acci- ents and near accidents indicate that fail- ures of the car floors are due to the fol- owing conditions: (1) Floor defects which existed before the car was loaded; (2) defective condition of those parts of the ar which support or reinforce the floor; 3) flooring of insufficient strength to sup- ort the commodity loaded in the car, par- icularly that portion of the floor which s not reinforced with floor supports be- ween the center and side sills; (4) defects aused by lift trucks used by the shipper n loading the car; (5) insecure blocking nd bracing, which permits vertical vibra- ion of the individual units when the load ecomes loose.

The Operating and Mechanical Divisions ecommend the following action:

Equipment assigned for loading commodities of character placing concentrated weight on individual floor boards should be selected by those having a knowledge of the commodity to be loaded, as well as of car construction and loading and bracing methods.

Close inspection of equipment at all inspection points to locate indications of failure of flooring or floor supports before the failure actually occurs.

A more detailed supervision of loading practices and methods for blocking and bracing the load at point of origin.

Consideration be given to the application of substantial floor supports between the center and side sills and extending from end sill to end sill as cars receive general repairs.

The flooring of freight cars in general to be maintained in better condition.

Freight Car Loading

Loadings of revenue freight for the week ended March 4 totaled 788,255 cars, the Association of American Railroads announced on March 9. This was an increase of 5,792 cars, or 0.7 per cent above the preceding week, an increase of 39,329 cars, or 5.3 per cent, above the corresponding week last year, and an increase of 17,770 cars, or 2.3 per cent, above the comparable 1942 week.

Loading of revenue freight for the week ended February 26 totaled 782,463 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, February 26

District	1944	1943	1942
Eastern	158,622	156,999	166,044
Allegheny	174,816	170,533	178,349
Pocahontas	55,411	59,651	51,136
Southern	123,965	128,925	125,911
Northwestern	85,864	79,226	88,034
Central Western	114,897	115,341	110,884
Southwestern	68,888	72,246	61,501
Total Western Districts	269,649	266,813	260,419
Total All Roads	782,463	782,921	781,859
Commodities			
Grain and grain products	48,084	50,668	37,351
Live stock	15,648	12,398	10,470
Coal	178,560	178,549	162,482
Coke	15,306	15,229	14,443
Forest products	42,560	43,230	45,329
Ore	13,322	14,654	12,853
Merchandise l. c. l.	102,271	93,758	143,542
Miscellaneous	366,712	374,435	355,389
February 26	782,463	782,921	781,859
February 19	775,692	752,019	774,420
February 12	795,262	765,271	782,701
February 5	806,075	755,514	783,962
January 29	811,062	734,670	815,565
Cumulative Total, 9 Weeks	6,955,969	6,587,536	6,981,421

In Canada.—Carloadings for the week ended February 26 totaled 68,330, compared with 65,623 for the previous week, and 65,085 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada	Total Cars Loaded	Total Cars Rec'd from Connections
Feb. 26, 1944	68,330	41,530
Feb. 19, 1944	65,623	38,974
Feb. 12, 1944	66,738	38,077
Feb. 27, 1943	65,085	41,884
Total for Canada		
Feb. 26, 1944	538,393	309,027
Feb. 27, 1943	474,194	293,450
Feb. 28, 1942	495,875	253,885

Pacific Coast Board Meeting

The sixty-fourth regular meeting of the Pacific Coast Transportation Advisory Board will be held in Los Angeles, Cal., on March 16, at which H. C. King, director of the Bureau of Service of the Interstate Commerce Commission, will be the principal speaker.

The Central Car Efficiency committee will meet on March 15 to discuss the reports of 85 committee chairmen. In addition, a paper on Freight Car Efficiency As It Affects The Carrier, will be presented by A. K. McNeill, superintendent of transportation of the Union Pacific. At a meeting of the Freight Claim Prevention committee, J. H. Flynn, mill traffic manager of the Sperry Flour Company, will discuss Commodities in Bags in Closed Cars; Cliff C. Malsie, general traffic manager of the Mission Dry Corporation, will speak on Liquids in Second-hand Glass Containers; and R. G. Fagan, superintendent of freight protection of the Southern Pacific, on Astray Freight.

Southwestern Claim Agents to Hold Meeting July 25-26

The Southwestern Railway Claim Agents' Association will hold its annual meeting in the Baker Hotel in Dallas, Tex., on July 25 and 26.

Rule 51 Change Suspended

The Interstate Commerce Commission has suspended from March 5, until October 5, schedules proposing to amend Rule 51 of the Consolidated Classification by cancelling the provisions for stopping multiple carload shipments in transit to complete loadings. The proceeding is docketed as I. & S. No. 5287.

"Back Pay" Adjustments

Completing its distribution of checks to cover the back pay of employees due for 1943, under the negotiated agreements with the operating and non-operating groups, and also the adjustment authorized by the federal government for certain other employees not covered by these agreements, the Baltimore & Ohio, on March 1, announced that the adjustment has cost the railroad $8,897,421.

Bill Provides Penalties for Ticket Scalping

Representative Walter, Democrat of Pennsylvania, has introduced in the House a bill (H.R. 4317) to make it unlawful to demand or receive for any rail, Pullman, bus or airline ticket any amount in excess of the established fare. Violations would be punishable by a fine up to $1,000, imprisonment up to one year, or both.

Repacking Passenger-Car Journal Boxes

In a circular letter dated February 25, the secretary of the A. A. R. Mechanical Division reports that in too many instances journal boxes on passenger-equipment cars are not being repacked after six months service, as indicated by the stenciling and as required by Passenger Car Interchange Rule 7. Passenger cars, including railroad equipment, troop sleepers and troop kitchen cars, are being found in troop movements with journal boxes long overdue for this service, which many times results in delay to passenger train movements on account of the journals running hot.

Since these cars are widely scattered, it is impossible for the car owners to take care of this service. It is urged, therefore, that proper instructions be issued to all

mechanical forces to provide for properly repacking journal boxes on this equipment at the expiration of six months, as required by the Interchange Rules, when such equipment is not in loaded movement and facilities are available for performing this service.

Elkins Act Penalty

Following a plea of *nolo contendere*, the Grand Trunk Western has been fined $1,000 on one count of an information filed against it in the federal district court in connection with alleged failure to assess charges for the refrigeration of fresh vegetables shipped from Michigan points to Green Bay, Wis., according to advice received by the Inter-State Commerce Commission. Four other counts of the information were dismissed.

Unions Lay Plans to Get Injury Benefits, Bigger Pensions

Suggested legislation to "liberalize" the Railroad Retirement Act and to set up a workmen's compensation law for railway employees has been approved by the Railway Labor Executives' Association, according to that organization's publication, "Labor," which indicated that bills embodying these suggestions soon will be introduced in Congress "by staunch friends of rail labor."

As approved by the union leaders, the proposed measures are reported to provide for coverage, under the retirement statutes, of "many" employees not included heretofore, to establish new and increased death benefits, and to amplify the annuity provisions for the benefit of disabled employees. The recommended changes were developed by a committee which was assisted by counsel and by "experts" of the Railroad Retirement Board. "Labor" pointed out that the union heads "have received cheering assurances that the proposed changes will be sympathetically considered."

Compensation Proposals—Employees injured in line of duty or disabled as a result of occupational diseases would become eligible for workmen's compensation payments provided by statute, if the proposed legislation should be enacted, instead of being required to secure settlements in such cases either directly with the carriers or through court proceedings. Monthly payments for life would be provided in the case of disablement, and dependents would receive compensation where death results from such injuries or illness. The carriers would bear the cost of these benefits, according to the proposals approved by the union heads, and employees would be spared the expense of lawyers' fees.

Oppose Subsidies—The brotherhood leaders also went on record at their meeting last week, according to the same source, in support of a national transportation policy to bring about "fair and just competitive conditions" that will permit private operation of all forms of transportation without subsidies, each being required to "stand on its own feet." At the same time they endorsed a proposal that the government should organize a so-called American flag line to engage in international air commerce in competition with subsidized foreign air services; domestic American lines would be permitted to "participate" in this government-sponsored operation, but their individual activities would be restricted to this country.

In the same meeting the railway labor executives were reported to have renewed their vigorous opposition to the employment on American railroads of prisoners of war. While agreeing with the managements that the railroads' manpower shortage has become critical, they rejected suggestions that they modify their views as to the use of war prisoners in railway maintenance or other work.

Truckers Talk on Problems with O. D. T. Officers

Ways and means of dealing with wartime problems facing the for-hire trucking industry were discussed this week in meetings of the "National Motor Transport For-Hire Carrier Consulting Committee to the Office of Defense Transportation" with members of the staff of the O. D. T. Division of Motor Transport in Washington, D. C., according to an O. D. T. press release.

Subjects under discussion included equipment and parts production, traffic and vehicle registration, handling of applications for new equipment, maintenance problems, tires, motor fuel and lubricants, effect of increased operating costs, freight rates, and financial problems of the for-hire industry.

Favors Full Cost Basis for Competitive Rates

(*Continued from page 515*)

of the I. C. C.'s accounting classification.

The classification is called "disappointing" when considered in terms of "practical and useful cost finding." This situation Mr. Dickson says "is primarily ascribable to two factors, first, the Interstate Commerce Commission has not provided the proper leadership in the adoption of definite cost procedures which would be worthy of the carriers' efforts, and second, the railroads have established a mythical barrier to the development of cost knowledge by their insistence that transportation costs cannot be ascertained with reasonable accuracy and that all cost-finding methods are unreliable."

Reports to I. C. C. "Artificial"—Mr. Dickson develops this thought to the point where he finds it "clear" that "no reliable cost data applicable to for-hire-motor-carrier operations are available from the Interstate Commerce Commission records in their present form." The annual report is "primarily an artificial log of statistics which must be filed with the Commission because noncompliance is punishable."

Neither does Mr. Dickson have any patience with special studies for specific cases. "Special studies," he says, "are costly as well as transitory and have not proved satisfactory in as much as the results obtained are dependent on the use of the inadequate data now found in the carriers' accounts. The present elaborate systems of accounts were not set up for the purpose of cost findings and, although they may be of some value to the Interstate Commerce Commission, there are limits beyond which it is neither practical nor profitable for the carrier to go in his efforts to meet the requirements. . . . The cost of keeping the existing system of accounts, plus the cost of the many rate cases before the Interstate Commerce Commission, in which the burden of proving his costs is placed on the carrier, plus the expense of the many cost studies conducted by the Interstate Commerce Commission on its own motion do not appear to be justified."

Jurisdictional Disputes Are Not New

That jurisdictional disputes are not new is revealed in an article entitled "The Relations of Organized Labor to the Railroads and the Relations of the Public to Organized Labor and the Railroads," written on March 1, 1893, by H. H. Porter, then vice-president of the Pullman Palace Car Company.

"Within the last week," the article states, "a strike has been called by the switch tenders and towermen of one of the railroads. It was not successful, but it showed plainly the arbitrary conditions in the various labor organizations, members of which are in the employ of the railroads, and their absolute lack of loyalty to the corporations employing them. In most instances, I assume, the conditions do not come from the wish of the men themselves to be disloyal, but from the rules of their labor organizations.

"Within a week a passenger train going out of Chicago, filled with passengers, was delayed at a point some three miles from the center nearly two hours waiting for a switch to be turned so that it might take its proper track. Neither the engineman, fireman, conductor nor either brakeman could turn that switch and let the train proceed, because it was against the rules of each one's organization that he should do anything that did not pertain to the duties laid down for him by his particular organization. The train was not moved until some one was sent out from Chicago to change this switch. It is probable that each employee on that train would have been willing to turn that switch, so that the train might go on and the passengers not be delayed, could he have done so without feeling the discipline of the labor organization of which he was a member.

"At another time three different locomotives, two with trains attached, were standing in each other's way on main track, with an empty locomotive at the head. On this empty locomotive sat the engineman and the fireman, waiting for a switch to be turned. The superintendent of one of the railroads going by this locomotive asked the cause of delay, and was informed the locomotive was waiting for a switch-tender to turn the switch. He said pleasantly, 'I will turn the switch,' and stepped up and did so, but this engineman refused to move because the switch had not been turned by a regular authorized switchman, and the blockade still continued."

Southeast Board Meeting

The Southeast Shippers Advisory Board will hold its twenty-first annual meeting in Atlanta, Ga., on March 16. Highlights of the meeting will include a luncheon address by Colonel J. Monroe Johnson, commissioner of the Interstate Commerce Commission, and a discussion of the national trans-

portation situation by W. C. Kendall, chairman of the Car Service Division of the Association of American Railroads. Railroad performance in the Southeast will be summarized by T. M. Healy, district manager of the Car Service Division at Atlanta, and transportation officers of the individual rail lines will report on their ability to continue to fulfil all vital shipper demands.

Activities of the National Contact committee of the National Association of Shippers Advisory Boards will be discussed by A. W. Vogtle of Birmingham, Ala., a former president of the National Association and the Southeast Board's representative on that committee.

January Net Income Was $45,400,000

(*Continued from page 513*)

crease of 5.4 per cent compared with January, 1943, while operating expenses totaled $67,567,498 an increase of 14.5 per cent.

Class I roads in the Western district in January, had an estimated net income of $18,300,000 compared with $26,015,440 in the same period of 1943. Their net railway operating income was $35,766,276 compared with $46,517,941.

The January gross in the Western district totaled $306,607,911 an increase of 14.2 per cent compared with January, 1943, while operating expenses totaled $199,796,265 an increase of 22.2 per cent.

Class I Railroads—United States

	Month of January 1944	1943
Total operating revenues	$740,671,731	$671,322,837
Total operating expenses	504,013,073	424,178,429
Operating ratio—per cent	68.05	63.19
Taxes	138,969,465	127,226,724
Net railway operating incomes (before charges	82,823,915	105,089,143
Net income, after charges (estimated)	45,400,000	62,979,830

December Truck Traffic

The volume of freight transported by motor carriers in January was less by 0.7 per cent than that moved in December, but exceeded January, 1943's traffic by 6.3 per cent, according to American Trucking Associations, Inc.

The A. T. A. compilation was based on figures from 344 reporting truckers operating in 47 states and the District of Columbia. They hauled a total of 2,460,305 tons in January, as compared with 2,477,695 tons in December and 2,314,265 tons in January of last year. The A. T. A. index figures, based on the average 1938-1940 monthly tonnage of the reporting carriers, was 182.08 for January.

F. E. P. C. Revamped Under Fire

Appointment by President Roosevelt of two new "industry" members of the President's Committee on Fair Employment Practice was announced this week. Charles H. Houston, a Washington, D. C., negro lawyer, has been selected to fill the vacancy left by the recently announced resignation of Plummer B. Young, Norfolk (Va.) negro editor; and Charles Horn, of the Federal Cartridge Corp., Minneapolis, Minn., has been chosen in place of Samuel Zemurray, president of the United Fruit Co., who also has resigned.

Meanwhile the activities of the committee were under investigation by a select committee of the House of Representatives authorized "to investigate acts of executive agencies beyond the scope of their authority," of which the chairman is Representative Howard W. Smith, Democrat of Virginia. This committee last week heard a defense of the F. E. P. C. by the then about-to-be-appointed new member, Charles H. Houston, who told the congressional committee that "You will be digging the graves of hundreds of thousands more American boys in the next generation" if alleged conditions of race discrimination are not settled "now."

Union Rules Assailed—This witness, who spoke for unions representing certain negro railway employees, defended the actions of the F. E. P. C. and assailed rules of the so-called standard railway unions which, he said, barred negroes from membership and restricted their employment and advancement to a fraction of the number available.

Sidney S. Alderman, general solicitor of the Southern and counsel for 10 southern railroads upon which the F. E. P. C., as reported in *Railway Age* of December 9, 1943, page 909, served "directives" concerning alleged discrimination in employment practices, appeared before the committee to challenge the authority of the F. E. P. C. to issue directives and to question its impartiality.

While the agency under investigation had been set up as a fact-finding body to investigate allegations of discrimination in employment practices, its performance in going beyond the scope of its authority in endeavoring to force certain railroads to abrogate contracts with their employees' unions constituted discrimination by the F. E. P. C., Mr. Alderman asserted. This was so, he explained, because it was attempting to have southern roads alter employment practices that allegedly prevent more negroes from obtaining work as firemen and trainmen while roads in other sections of the country have not entered agreements under which they employ negroes in such capacities.

F. E. P. C. Harming Negroes—To put the F. E. P. C. directives into effect at this time, the witness said, might result in violence, and at the least would result in a paralysis of transportation and a resulting serious effect on the war effort because white employees in the south would not accept the conditions of employment that its directives apparently would bring about. The broad problem of discrimination on account of race would have to be worked out gradually by educational and evolutionary processes, the committee was told, and arbitrary mandates of administrative agencies not sanctioned by Congress were more likely to aggravate than to alleviate any friction that may exist. These views were generally agreed to by Frank Mulholland, counsel for the railway brotherhoods, who told the committee that the F. E. P. C.'s activities were harming rather than helping the position of negro workers.

The F. E. P. C. announced on March 6 that the Chicago & North Western had notified it that, as a result of complaints examined by that agency, that road had arranged to promote negro car cleaners to carmen's helpers and had employed five negro waiters as dining car stewards, effective January 1, with retroactive seniority.

Equipment and Supplies

Frisco to Spend $2,700,000

Trustees of the St. Louis-San Francisco have filed a petition with the U. S. District Court in St. Louis, Mo., for permission to set aside $2,700,000 for the purchase of new equipment and for improving present facilities when materials become available. Included are $200,000 for new hopper cars, $750,000 for new passenger cars, $1,000,000 for the renewal of five bridges on the main line between Kansas City, Mo., and Birmingham, Ala., and $750,000 for new rails to be laid in the next five years.

FREIGHT CARS

Chesapeake & Ohio Buys 5,000 New Hopper Cars

The CHESAPEAKE & OHIO has awarded contracts for 5,000 all-steel hopper coal cars of 50 tons' capacity, to cost approximately $13,000,000. Orders were allocated as follows: 2,500 to the American Car & Foundry Co.; 1,250 to the General American Transportation Corporation, and 1,250 to the Pullman-Standard Car Manufacturing Company. Deliveries are scheduled to begin in the third quarter of this year. The inquiry for this equipment was reported in the *Railway Age* of January 29.

The ERIE is inquiring for 600 hopper cars of 50 tons' capacity.

The CENTRAL OF GEORGIA has ordered 10 70-ton hopper cars from the American Car & Foundry Co.

The SOUTHERN has ordered 1,000 50-ton box cars from the Mount Vernon Car Manufacturing Company.

The ERIE has fitted eleven steel locomotive tenders as fire fighting units designed to combat fires from gasoline, crude oil and other inflammable liquids. The tenders have been incorporated in wrecking trains stationed at strategic terminals along the line.

SIGNALING

The NEW YORK, CHICAGO & ST. LOUIS is installing a centralized traffic control system on 31.6 miles of single track between Thornton Junction, Pa., and North East. The system will be controlled from the dispatcher's office at Conneaut, Ohio, and involves color light signals, electric switch machines and switch locks, coded track circuit materials and housings, all of which are being supplied by the Union Switch & Signal Co.

Supply Trade

Lima Reports 390 Locomotives on Order at Year-End

In its annual report to the stockholders for the year 1943, the Lima Locomotive Works reported a backlog of 390 locomotives on order at December 31, 1943. Unfilled orders for locomotives, power shovels and cranes, forgings, castings, special orders for war materials, and miscellaneous items amounted to $51,512,400.

Three hundred and fifty-nine locomotives were completed in 1943 as compared with 176 in 1942. Sales billed in 1943 amounted to $90,668,477, as compared with $63,743,395 in 1942. Net profit in 1943, after deduction of the estimated amount required for renegotiation of 1943 war contracts and after other necessary reserves, was $1,845,340. From this $277,692 was deducted, representing an adjustment of the provision for renegotiation of 1942 war contracts, leaving $1,567,648, or $7.43 per share of capital stock as the net amount carried to earned surplus for the year 1943, which compares with $1,643,451, or $7.78 per share, in 1942. By crediting the above adjustment to the accounts for the year 1942, net profit for that year would total $6.47 per share, and for 1943, $8.74 per share.

Current assets at December 31, 1943, were $20,288,901, and current liabilities, $12,460,638. Net current assets were $7,828,263 as compared with $8,355,767, at December 31, 1942, a decrease of $527,504. Total reserve for possible inventory losses and other war emergencies at the year-end was $1,800,000. A comparison of operating results for years 1943 and 1942 is set forth below:

	1943	1942
Sales	$90,668,477	$63,743,395
Cost of sales*	74,924,983	54,513,655
Profit from operations	$15,743,494	$ 9,229,740
Other income (Interest, dividends, etc.)	263,741	290,201
Other charges (Depelopment costs, etc.)	321,895	346 355
Provision for federal income and excess profits taxes and war contract renegotiation	13,150,000	6,400,000
Provision for inventory losses and other war emergencies	690,000	1,000,000
Prior years' adjustments	.....	130,135
Adjustment of prior years' provision for renegotiation of war contracts	277,692	.....
Net profit to surplus	$ 1,567 648	$ 1,643,451

* Including depreciation charged as follows: 1943—$312,917; 1942—$168,094.

American Brake Shoe Shipments Continue to Increase

Net earnings of the American Brake Shoe Company and subsidiaries during the year 1943 amounted to $3,111,659, which, after preferred dividends of $514,500, equals $3.38 per share of common stock. This compares with 1942 earnings of $2,991,459, or $3.22 per common share. Provision for U. S. income and excess profits taxes was $6.55 per share of common stock. The company stated that no settlement in respect of the renegotiation of war contracts for 1943 has been reached, but that it is the management's opinion that no government refund assessment is warranted.

Shipments of the company and its subsidiaries during the year were $89,000,000, as compared with $77,200,000 in 1942, an increase of 15 per cent. Shipments of the American Brake Shoe Company totaled $72,000,000 in 1943, as compared with $62,800,000 in 1942. At the year end, unfilled orders were $31,700,000, an increase of $2,700,000.

Capital expenditures were $2,330,000 as compared with depreciation and amortization charges of $2,303,000, and it was estimated that 1944 expenditures would exceed 1943. The company stated that plant capacities have been increased and although the end purposes of a large portion of the production have changed, the new equipment is of types used in the company's normal peacetime operation. As one example of the increases, brake shoe capacity was said to now exceed any possible postwar requirement. Current assets at the year-end were $29,522,785, and current liabilities $10,015,492, current assets exceeding current liabilities by $19,507,293, as compared with $18,351,319 at the end of 1942.

Baldwin Issues Preliminary Report to Stockholders

On March 6, in a preliminary report to stockholders for 1943, Charles E. Brinley, chairman of the Baldwin Locomotive Works, stated that because renegotiation of war contracts has not been completed, the company is issuing a preliminary report of the estimated results of operations for the year. The company's sales for the year amounted to $234,068,705, before the reduction which would follow the completion of war contract renegotiation. With respect to profit, a charge has been made in the amount of $26,600,000, which, in the management's opinion, should be approximately adequate to provide for renegotiation and taxes on income, as well as an additional sum as a reserve for contingencies to partially offset the as yet undetermined excess profits tax postwar refund credit which will accrue to the company. The resulting estimated net profit for the year amounted to $5,073,458. After deducting preferred stock dividends of $163,029, the balance of $4,910,429 equaled $3.85 per common share.

Earnings for the year 1942, after renegotiation and after deducting preferred stock dividends, amounted to $4,353,315. The usual final report to the stockholders will be made when the renegotiation of war contracts is completed.

The **Cochrane Corporation** has been awarded the Army-Navy "E" for meritorious production achievement.

T. E. Marston has been appointed manager of ring sales for the **Edgewater Steel Company,** Pittsburgh, Pa.

A third renewal of the Army-Navy "E" award has been received by **Handy & Harman** for continued production achievement.

Walter L. Giles, Jr., sales manager of the **Ellcon Company,** New York, has been elected vice-president and a director of the company. He will be in charge of sales for the company's marine and railway divisions. Mr. Giles was graduated from the Virginia Polytechnic Institute in 1921, and was associated with the Norfolk & Western until 1928. He joined the Ellcon Company in 1934.

A third Army-Navy "E" award has been received by the **Silent Hoist & Crane Co.,** Brooklyn, N. Y., for continued meritorious service on the production front.

Robert A. Campbell, assistant sales manager of the Ohio Seamless Tube Company, has been appointed sales manager of the steel tube division of **Talon, Inc.**

W. G. McFadden, formerly assistant district sales manager, Chicago office for the **Allegheny Ludlum Steel Corporation,** has been appointed district manager of that territory.

The **Edward G. Budd Manufacturing Company** has been granted a renewal of its Army and Navy "E" award for the third time for meritorious services on the production front.

William R. Kottsieper, assistant manager of sales of the valve department of the **American Car & Foundry Co.,** has been appointed manager of that department.

William R. Kottsieper

Mr. Kottsieper has been associated with a.c.f. for 38 years. He began his career in the auditing department of the company's St. Louis, Mo., office and was transferred to the operating department of the New York office in 1918. When a.c.f. began the production of valves in 1931, he assisted in organizing the valve department, and was appointed assistant manager of sales. **W. A. Gormley,** a member of the valve department, has been appointed sales manager of a.c.f. valves, and **L. A. Ward,** also a member of the valve department, has been appointed assistant sales manager.

The storage battery division of the **Philco Corporation** has received its fourth Army-Navy "E" award in recognition of the continued excellence of its war production record.

Cleve H. Pomeroy has been elected vice-president of the **National Malleable & Steel Castings Co.** He also will continue as secretary and treasurer of the company. Mr. Pomeroy was graduated from Western Reserve University in 1912

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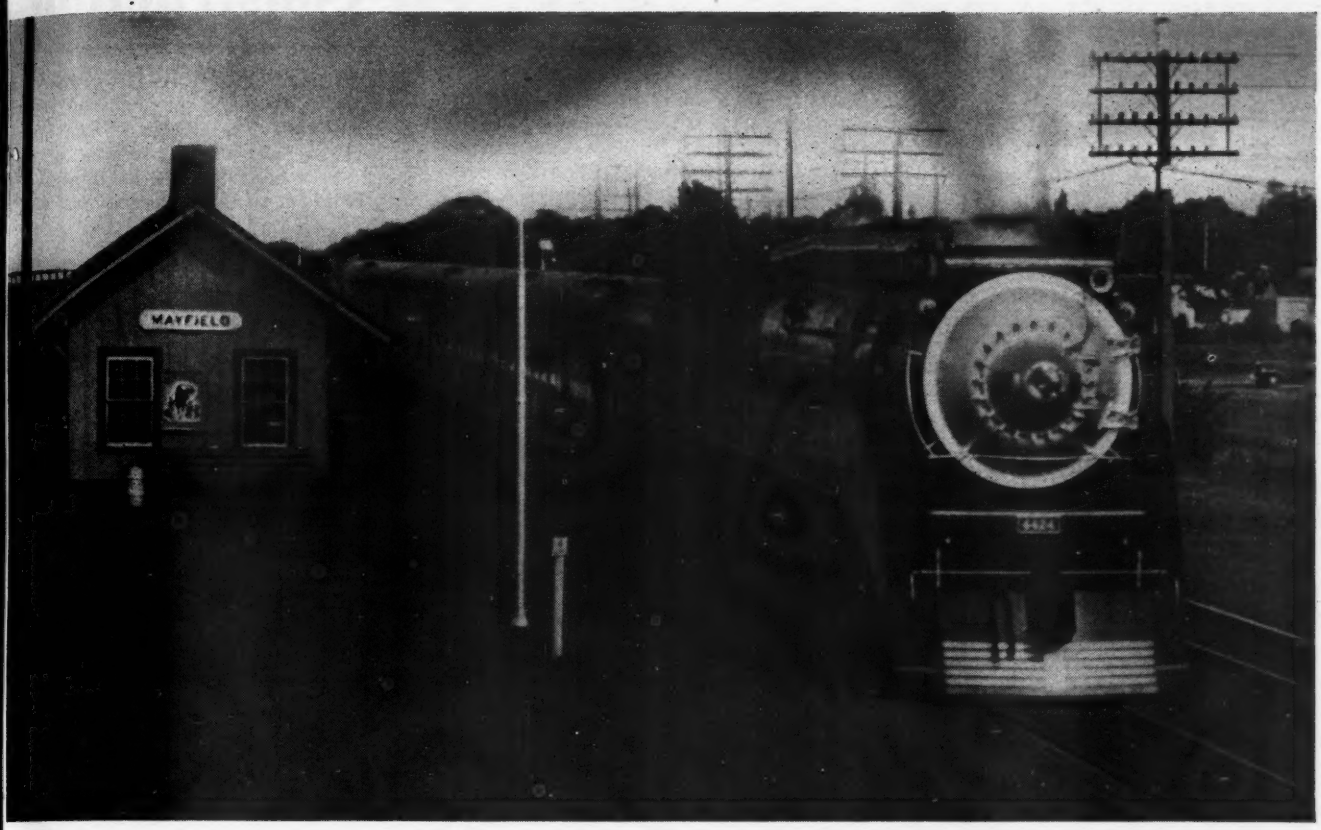

WHERE *Tomorrow* PASSES *Yesterday!*

Through many, many yesterdays this little Southern Pacific station of Mayfield, the oldest railroad station in California, has drowsed in the sun and under the stars. And through many, many tomorrows the Southern Pacific's Lima-built general service locomotives, the ultra-modern motive power, will serve the great State of California and the nation.

Sixty Lima-built 4-8-4 type general service locomotives and twelve powerful Lima-built 2-8-8-4 type Mallets, provide an important part of the motive power that hauls heavy wartime freights over mountainous terrain and keeps the Southern Pacific's fast, over-night service humming.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED **INCORPORATED, LIMA, OHIO**

and joined National Malleable in 1920 as credit manager. He was appointed assistant treasurer in 1926, treasurer in 1935, and elected to the board of directors in 1938.

Paul M. Snyder has been appointed sales manager of the **Climax Molybdenum Company,** with headquarters at Canton, Ohio. Mr. Snyder has been in charge of the company's sales and development work in the Canton area since March, 1932.

George P. MacDonald has been elected vice-president and traffic manager of the **Sinclair Refining Company,** a marketing subsidiary of the Sinclair Oil Corporation. For the past year, Mr. MacDonald has been manager of supplies and distribution for the Petroleum Industry Committee, district 1. He was formerly vice-president and general sales manager of the Richfield Oil Corporation of New York.

Frank J. Stanley, plant superintendent of the **Lebanon Steel Foundry,** Lebanon, Pa., has been appointed plant manager to succeed **Henry D. Phillips,** who has resigned to take a commission in the Navy. **L. G. Miller,** chief inspector and assistant to the plant manager has been appointed plant superintendent to succeed Mr. Stanley.

Arthur J. O'Leary has been appointed assistant manager of sales, and **George W. Eshleman,** assistant to the manager of sales, of the **Lukens Steel Company.** Mr. O'Leary joined the Lukens Steel Company in December, 1926, and was transferred to the sales department in 1931. From 1941 to 1943, he served in an advisory capacity in the steel division of the War Production Board. Mr. Eshleman joined Lukens in 1927, and has served in the company's sales department since 1935.

W. Lyle Richeson has been appointed assistant vice-president, sales department, of the **American Car & Foundry Co.** Mr. Richeson was graduated from the Sheffield Scientific School of Yale University in 1924. He began his career with a.c.f. in the company's Berwick, Pa., plant in 1925, and was transferred to the New

W. Lyle Richeson

York office as sales agent for the miscellaneous sales department in 1926. He was appointed district sales agent at the Cleveland, Ohio, office in 1930, and later district sales manager of that office. He returned to the company's New York office in 1937.

OBITUARY

Jesse Jay Ricks, chairman of the board of the Union Carbide & Carbon Corporation, died on February 20. He was 64 years of age. Mr. Ricks was graduated from the University of Michigan in 1901, and was awarded a bachelor of laws degree from the Michigan Law School in 1903. He joined the newly-formed Union Carbide Corporation in 1917, and later was appointed chief counsel. He elected president in October, 1925, and chairman of the board in 1941.

William J. Davis, Jr., retired consulting transportation engineer of the General Electric Company, died February 21 at Ellis Hospital, Schenectady, N. Y., after a long illness. Mr. Davis will be remembered in the railroad field for making an exhaustive pioneer study of the subject of train resistance, and the "Davis Formula," which he developed, is still the generally accepted means of calculating train resistance. He also introduced forced ventilation for railway cars. He was born in Louisville, Ky., May 13, 1868. A graduate of Rose Poly-

William J. Davis, Jr.

technic Institute in 1892, Mr. Davis was first employed by General Electric in the company's test course at Lynn, Mass. After completing several of the regular apparatus tests, he was placed in charge of the calculating room of the testing department. He left the company in 1893 but returned in February, 1895. In May, 1899, Mr. Davis was named assistant engineer in the G-E railway engineering department, where he carried out special engineering work in connection with the Detroit River Tunnel electrification, as well as the electrification of the New York Central, West Jersey & Seashore and a number of other electric railway systems. Mr. Davis became engineer of the company's Pacific Coast District in San Francisco, Calif., in 1908. During a portion of this time he was chief engineer of the Mexican Northern Power Co. and was in charge of the engineering features of the Boquilla development of that company at Chihuahua.

In 1921, Mr. Davis was transferred to the G-E railway engineering department at Schenectady. When that department became known as the transportation engineering department, in 1929, he was appointed a consulting engineer. Mr. Davis retired on September 1, 1930, after 35 years of service.

Construction

BALTIMORE & OHIO.—This road has awarded a contract, amounting to $61,000, to the Great Lakes Dredge & Dock Co., for the replacement of two sections of bulkhead along the Cuyahoga River at Wheeling Bend and at the Columbus road freight house, at Cleveland, Ohio.

ST. LOUIS-SAN FRANCISCO.—This road has awarded a contract for grade reduction on Dixon hill (on the main line west of Newburg, Mo.), involving some unusually heavy grading work. The contract amounts to more than $600,000 and has been awarded to Brown & Root, Inc., Houston, Tex. The work, which involves the construction of a new 4-mile line between Jerome, Mo., and Franks, will reduce the maximum grade from 2.25 per cent to 1.27 per cent, and the maximum curvature from 10 deg. to 5 deg.

WAR DEPARTMENT.—The U. S. Engineer office, Seattle, Wash., has awarded a contract, amounting to $47,812, to Woodworth & Co., Inc., Tacoma, Wash., for the construction of additional railroad trackage in Washington. The U. S. Engineer office, New York, has awarded a contract, amounting to $218,613, to Senior & Palmer, Inc., New York, for the construction of additional railroad trackage in New Jersey.

Abandonments

PENNSYLVANIA-READING SEASHORE LINES.—Division 4 of the Interstate Commerce Commission has denied this road's application for authority to abandon its 3.9-mile branch from Cape May Court House, N. J., to Stone Harbor, used in recent years only for carload freight traffic, on the ground that its continued operation will not impose an undue burden on the road, while the communities served would suffer detriment if its service should be discontinued.

PERE MARQUETTE.—Division 4 of the Interstate Commerce Commission has authorized this road's subsidiary, the Manistee & Northeastern, to abandon a portion of a branch from a point near Cedar City, Mich., to Provemont, 10.71 miles, finding that "the record clearly shows that neither the present nor prospective volume of traffic on the segment is sufficient to justify its retention."

ST. LOUIS & HANNIBAL.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon its entire line from Hannibal, Mo., to Bowling Green, 32.8 miles. It is expected, however, that about 1.2 miles of the line at Hannibal will be acquired by the Chicago, Burlington & Quincy.

ST. LOUIS & TROY.—Division 4 of the Interstate Commerce Commission, upon further consideration, has suspended its certification authorizing this road to abandon its entire line from Troy, Mo., to Moscow Junction, 5.2 miles, and has assigned the proceeding for hearing at a date to be set. The city of Troy has been authorized to intervene in the proceeding.

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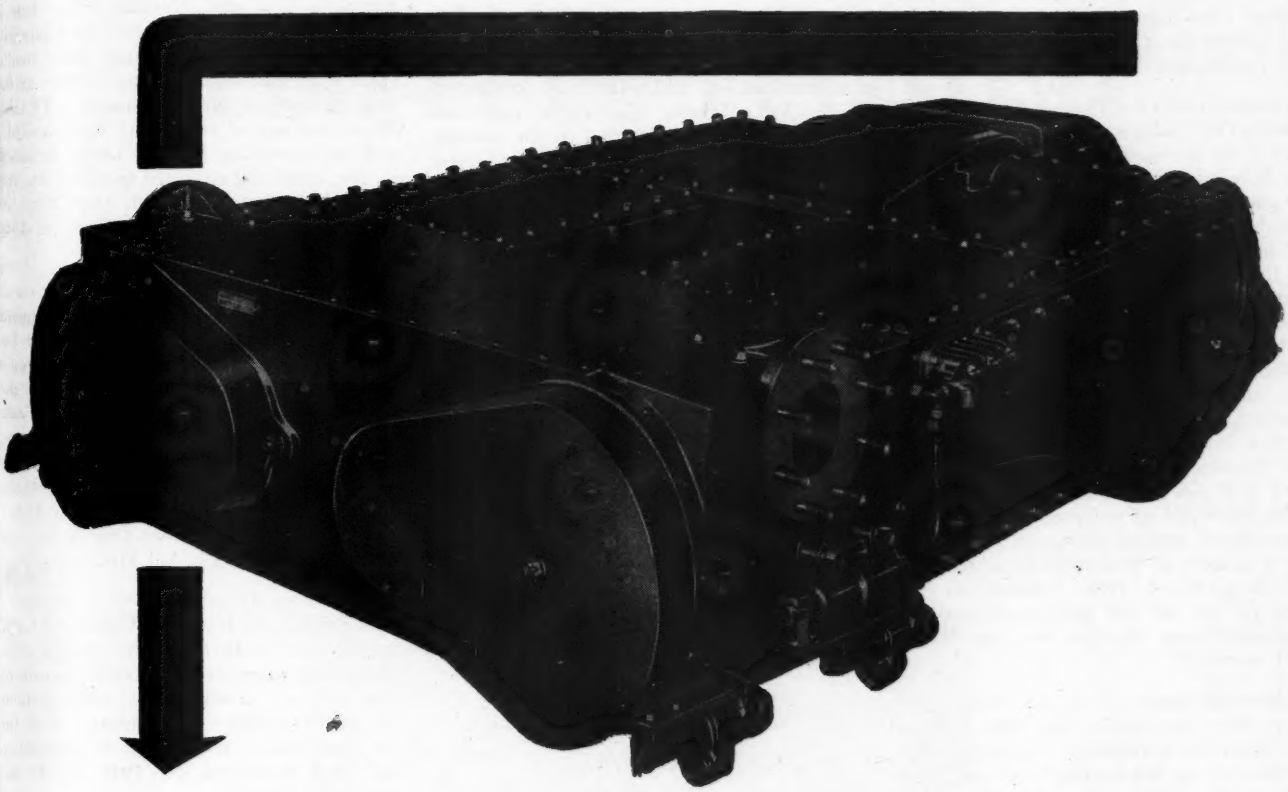
Full Initial

STARTING EFFORT



*is a feature of the NEW Type 'E' Booster**

THE new Type "E" Booster will get heavy trains started easily. For a special starting feature enables the new Type "E" Booster to develop its maximum starting effort right at the time it is most needed.

The new Type "E" Booster also delivers higher draw bar pull at speed. This is due to a new cylinder design with integral inlet and exhaust manifolds, the large steam and exhaust passages of which give maximum inlet pressures and minimum exhaust pressures. Dynamic balancing, a roller bearing crank shaft, and new design inlet and exhaust steam ball joints also contribute to the smooth operation and higher operating speeds of the new Type "E" Booster.

*Trade Mark Reg. U. S. Pat. Off.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

Financial

CENTRAL OF NEW JERSEY.—*Promissory Notes.*—This road has applied to the Interstate Commerce Commission for authority to issue $628,000 of promissory notes in evidence of, but not in payment for, the unpaid balance on the purchase price of 10 Diesel-electric switching locomotives, on which a cash payment of 20 per cent of the cost is being made. Five of the locomotives have been ordered from the American Locomotive Co. and five from the Baldwin Locomotive Works.

LEHIGH VALLEY.—*Deferred Interest Payment.*—The Lehigh Valley will pay, on May 1, the deferred balance on two coupons due November 1, 1939 and May 1, 1940 on its general consolidated 4, 4½ and 5 per cent bonds due 2003. Payments amount to $15 on the 4s, $16.87 on the 4½s and $18.75 on the 5s. Payment of the two deferred coupons in advance of their extended due dates of November, 1944 and May 1, 1945 will amount to $2,337,486. The company announced that since the date of the financial adjustment plan and agreement of August 25, 1938, it has paid off $10,264,000 in bank loans, PWA notes and Reconstruction Finance Corporation loans. The railroad will also have paid off as of May 1, 1944, $4,674,973 of deferred interest on the consolidated general mortgage bonds leaving a balance of $1,168,743 to be paid and due November 1, 1945. Interest has been paid in full on the general consolidated mortgage bonds effective with the May 1, 1941 coupon.

MISSOURI-KANSAS-TEXAS.—*Annual Report.*—For the second year, this railroad has issued its preliminary report to stockholders in an impressive brochure, handsomely illustrated with color pictures of improvements on the property, and graphic charts explanatory of the road's operations. There are short reviews, as well, prepared in collaboration with economists in Missouri, Kansas, Oklahoma and Texas, concerning the industrial outlook and the resources of the states traversed by the Katy. The report shows net income for 1943 of $5,115,971, as compared with $5,880,546 for 1942. Through February 16, 1944, there were purchased and retired $26,176,500 of mortgage bonds thereby effecting a saving of $1,234,995 in annual fixed charges, or 29.8 per cent of the total fixed charges. Selected items from the income statement follow:

	1943	Increase or Decrease Compared with 1942
Average Mileage Operated	3,293.31	
RAILWAY OPERATING REVENUES	$79,024,587	+$20,398,368
Maintenance of way and structures	19,027,170	+8,168,664
Maintenance of equipment	9,667,577	+1,335,192
Transportation	22,588,564	+5,317,020
TOTAL OPERATING EXPENSES	55,536,441	+15,545,616
NET REVENUE FROM OPERATIONS	23,488,146	+4,852,752
Railway tax accurals	8,860,632	+4,794,735
RAILWAY OPERATING INCOME	14,627,514	+58,017
Equipment rents	2,973	+960
Joint facility rents	1,071,017	+140,459
NET RAILWAY OPERATING INCOME	9,227,193	−1,244,290
Total other income	322,360	−138,167
TOTAL INCOME	9,549,553	−1,382,457
Rent for leased roads and equipment	16,247	−7,441
Interest on funded debt—Fixed interest	3,658,457	−620,324
TOTAL FIXED CHARGES	3,698,269	−608,689
NET INCOME	$5,115,971	−$764,575

NEW YORK CENTRAL.—*Annual Report.*—The preliminary annual report of this company for 1943 shows net income of $62,734,050, after interest and other charges, an increase of $13,651,867 as compared with 1942. During the year a reduction of $25,770,184 was effected in the amount of capital obligations, the total at the end of the year being $891,967,063. Selected items from the income statement follow:

	1943	Increase or Decrease with 1942
RAILWAY OPERATING REVENUES	$706,124,833	+$112,458,762
Maintenance of way	89,735,382	+21,188,311
Maintenance of equipment	120,590,944	+11,496,629
Transportation	234,558,397	+37,014,181
TOTAL OPERATING EXPENSES	477,337,099	+74,667,501
Operating ratio	67.60	−.23
NET REVENUE FROM OPERATIONS	228,787,734	+37,791,762
Railway tax accruals	122,035,845	+39,145,741
Equipment and joint facility rents—Dr.	18,227,592	+520,693
NET RAILWAY OPERATING INCOME	88,524,297	1,875,198
Other income	21,133,706	+2,855,116
TOTAL INCOME	109,658,003	+979,918
Rent for leased roads and equipment	21,095,814	−1,296,368
Interest on funded debt	23,563,322	−970,189
TOTAL FIXED CHARGES	45,336,458	−3,176,991
NET INCOME	62,734,050	+13,651,868

NEW YORK CENTRAL.—*Acts In Harlem Suit.*—In its suit for a declaratory judgment to determine the income tax liability of the New York & Harlem, the New York Central has informed the remaining minority stockholders of the Harlem of a court motion returnable on April 4. The railroad proposes to discontinue the suit against those defendants who had been stockholders of the Harlem but who, having accepted the railroads' offer and exchanged their shares of stock for bonds, are no longer stockholders of the Harlem. The Central now holds approximately 95 per cent of the outstanding stock of the Harlem, and proposes to bring in as defendants in the suit such representative number of the remaining minority stockholders as may be determined by the court, a necessary procedure for the railroad to proceed to a final judgment of the pending suit against the remaining stockholders of the Harlem.

NEW YORK, NEW HAVEN & HARTFORD.—*Court Approves Reorganization Plan.*—On March 7, the United States district court at New Haven, Conn., approved the Interstate Commerce Commission's amended plan of reorganization of the New York, New Haven & Hartford under which the common and preferred stocks of the New Haven become worthless and stock equities of the Old Colony are eliminated. The plan increases the price to be paid for the Old Colony to $7,111,622. Under its terms, an additional $1,631,327 in first and refunding bonds and $1,422,459 in income bonds will be issued for this purchase and in addition, $857,143 in first and refunding bonds and $642,857 in income bonds will be reserved for Old Colony creditors contingent upon 1943 earnings. Objectors to the plan have 30 days in which to file an appeal.

NEW YORK, NEW HAVEN & HARTFORD.—*Retroactive Wage Accruals.*—The Interstate Commerce Commission, by Commissioner Mahaffie, has denied this road's application for authority to include in its 1944 accounts expenses estimated at $4,350,000 on account of retroactive wage awards, and accompanying payroll taxes, included in the wage adjustments accepted by the railroads in January of this year, thus requiring the charges to be made in 1943 accounts.

PENNSYLVANIA.—*Sued by Otis & Co.*—On February 29, Otis & Co., investment bankers of Cleveland, Ohio, filed suit for $1,000,000 in the United States district court against the Pennsylvania, its subsidiary, the Pennsylvania, Ohio & Detroit, and 16 officers of the railroad. Otis & Co. charged that the railroads suffered a financial loss in the sale, during 1943, of a $28,483,000 bond issue to Kuhn, Loeb & Co. for $100 a unit, despite the fact that Otis & Co. and Halsey, Stuart & Co. bid $102.

RUTLAND.—*Solicitation of Securities.*—Division 4 of the Interstate Commerce Commission has authorized this road's reorganization managers to solicit deposit of securities or, conditionally, authorizations by security holders in connection with the consummation of the plan of reorganization approved September 10, 1943, by the receivership court.

WATERLOO, CEDAR FALLS & NORTHERN.—*Reorganization.*—Division 4 of the Interstate Commerce Commission has authorized the distribution of securities to effect this road's reorganization, and has approved maximum limits of final allowances for compensation and expenses of the reorganization manager. This action was reported in more detail in this column in the March 4 issue, in which the name of the road was incorrectly stated.

Average Prices of Stocks and Bonds

	March 7	Last week	Last year
Average price of 20 representative railway stocks..	39.88	39.60	33.82
Average price of 20 representative railway bonds..	86.56	83.50	74.44

Dividends Declared

Alabama and Vicksburg.—$3.00, semi-annually, payable April 1 to holders of record March 8.

Beech Creek—50¢, quarterly, payable April 1 to holders of record March 10.

Dayton & Michigan.—Common, 87½¢, semi-annually; 8% preferred, $1.00 quarterly; payable April 1 and April 4 respectively to holders of record March 15.

Maine Central.—6% prior preferred (accum.), $6.00, payable April 1 to holders of record March 27.

Pittsburgh, Fort Wayne & Chicago.—Common and 7% preferred; both quarterly, $1.75, payable April 1 to holders of record March 10.

Sharon.—$1.00, irregular, payable April 1 to holders of record March 21.

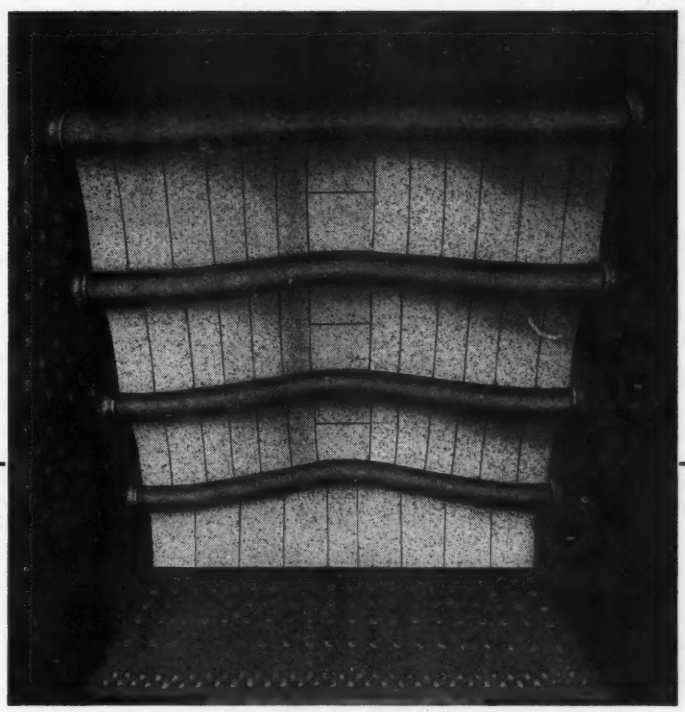
Southern.—$2.00, payable April 1 to holders of record March 11.

News Department continued on next left-hand page

A CORRECT BRICK ARCH GUARANTEES

FULL FUEL ECONOMY

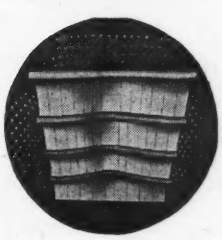
There is a carefully worked out design of the Security Brick Arch for every class of locomotive. . . . This design guarantees maximum efficiency both as to fuel economy and hauling capacity. . . . In modernizing existing power and in maintaining locomotives in active service, be sure the correct brick arch design is installed and be sure it is completely maintained.



There's More to
SECURITY ARCHES
Than Just Brick

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.

Locomotive Combustion Specialists

Railway Officers

EXECUTIVE

Colonel Eric Gore-Browne, D. S. O., O. B. E., A. D. C., deputy chairman of the Southern (England) as from January 1, 1935, has been elected chairman in succession of the late **R. Holland Martin,** C. B.

Harlan P. Ross has been appointed vice-president of the Upper Merion & Plymouth with headquarters at Conshohocken, Pa. He succeeds **Nicholas Lewarne Moon,** whose death on December 27, 1943, was reported in the *Railway Age* of January 8. Mr. Ross was born at Philadelphia, Pa., and received his early railroad training in the operations and traffic departments of the Pennsylvania. After

Harlan P. Ross

serving for about 18 years as traffic manager of the Crew Levick Company of Philadelphia (now Cities Service Oil Company of Pennsylvania), Mr. Ross joined the transportation division of the United States Army in Washington, D. C., in 1939, as transportation specialist. Later he became senior transportation specialist of the Office of Defense Transportation. After completing his governmental service, Mr. Ross was engaged in the petroleum industry at Chicago, before his appointment to the U. M. & P. vice-presidency.

FINANCIAL, LEGAL AND ACCOUNTING

M. J. Hicks has been named an assistant treasurer of the Delaware & Hudson, with headquarters at New York.

J. E. Bertelsen, auditor of revenues of the Minneapolis, St. Paul & Sault Ste. Marie (Soo Line), and of the Duluth, South Shore and Atlantic, with headquarters at Minneapolis, Minn., has been promoted to general auditor of both roads, with the same headquarters, succeeding **John R. Chapman,** who has retired after 30 years service. **J. R. Koch,** assistant auditor of revenues, has been advanced to acting auditor of revenues, with headquarters as before at Minneapolis, replacing Mr. Bertelsen. **D. F. Curry** and **H. P. Holt** have been appointed assistant auditors of revenues, and **E. F. Fisher** has been appointed assistant auditor of disbursements, all with headquarters at Minneapolis.

Mr. Chapman was born at Winnipeg, Man., on September 19, 1888, and entered railway service on July 1, 1913, as a clerk of the auditor's office at Minneapolis. He was advanced to chief clerk of the auditor of disbursements on October 1, 1915, remaining in that capacity until June 1, 1922, except for a short period during which he served as a lieutenant in the U. S. Army. In 1922, Mr. Chapman was promoted to auditor of disbursements of the Soo Line and ten years later took over similar duties for the D. S. S. & A. On June 1, 1936, he was advanced to assistant comptroller of both roads, and in November, 1943, he was promoted to the positions he held at the time of his retirement.

Howard J. Carroll, assistant secretary of the Southern Pacific, with headquarters at San Francisco, Cal., has been promoted to secretary, with the same headquarters, succeeding **William F. Bull,** who has retired after 44 years service.

Mr. Carroll was born at Brooklyn, N. Y., on April 19, 1896, and entered railway service on October 20, 1913, as a stenographer of the office of the treasurer of the Southern Pacific at New York, and later served as secretary of the chairman of the executive committee with the same headquarters. In 1917 he was granted a leave of absence to serve in the armed forces during World War I, returning to the Southern Pacific in 1919 in the office of the chairman of the board, with headquarters at New York. From 1920 to 1928 he served in the office of the vice-president and controller, with the same headquarters, and in the latter year he was promoted to chief clerk of the office of the chairman of the board. On January 5, 1933, Mr. Carroll was advanced to assistant secretary at New

Howard J. Carroll

York, moving his headquarters to San Francisco on July 17, 1939.

Mr. Bull was born at Newark, N. J., on February 10, 1874, and received his education at the Baltimore City College. He entered railway service in 1890 as a clerk in the relief department of the Baltimore & Ohio, and on March 1, 1900, he entered the service of the Southern Pacific at its system headquarters at San Francisco. After a brief service in the manager's office he was transferred to the office of the vice-president and general manager as statistician. In addition, Mr. Bull served as secretary of the pension department from its inauguration on January 1, 1903, to April 1, 1904, when he was transferred to the office of the director of maintenance and operation at Chicago. On September 11, 1913, he was promoted to assistant secretary and in January, 1933, he was advanced to the position he held at the time of his retirement.

OPERATING

James W. Corbett, assistant general manager of the Southern Pacific, with headquarters at San Francisco, Calif., has been promoted to general manager, with the same headquarters, succeeding **C. F. Donnatin,**

James W. Corbett

whose death on February 23 is reported elsewhere in these columns. **R. E. Hallawell,** general superintendent of transportation, with headquarters at San Francisco, has been advanced to assistant general manager, replacing Mr. Corbett, and **G. C. Baker,** superintendent of transportation at San Francisco, has been promoted to general superintendent of transportation, with the same headquarters, relieving Mr. Hallawell. **J. A. McKinnon,** trainmaster of the Tucson division, has been advanced to assistant superintendent of the Salt Lake division, with headquarters at Sparks, Nev., succeeding **C. H. Grant,** who has been promoted to superintendent of transportation, replacing Mr. Baker.

Mr. Corbett was born at Gallup, N. M., on June 25, 1895, and entered railway service in April, 1912, as a telegrapher of the Oregon, Washington Railroad & Navigation Company, (now part of the Union Pacific), and in 1915 became a telegrapher and relief agent of the Shasta division of the Southern Pacific. In 1919 he was transferred to the Sacramento division, serving as train dispatcher and division examiner until August, 1927, when he was advanced to acting supervisor of transportation of the Northern district. From 1927 to 1939 Mr. Corbett served as trainmaster on the

Important Factors in Locomotive Boiler Design

1—EVAPORATION
2—SUPERHEAT

Maximum evaporation within given dimensions is obtainable only with the small flue boiler . . . Maximum superheat is provided only with Elesco superheaters as designed for small flue boilers. Specify this combination for your new power.

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New Mexico division and the Rio Grande division, terminal trainmaster of the Sacramento and the Coast divisions, and assistant superintendent of the Portland division. In July, 1939, he was promoted to assistant to the general manager, with headquarters at San Francisco, and two years later he was appointed superintendent of the Portland division. In April, 1942, Mr. Corbett was advanced to assistant general manager at San Francisco, holding that position until his new appointment.

Mr. Hallawell was born at San Francisco on January 8, 1891, and entered railway service as a clerk of the Southern Pacific in April, 1914. He later served as agent and assistant trainmaster of the Coast division until July, 1920, when he was advanced to supervisor of transportation of the Northern district. In 1925 Mr. Hallawell was promoted to transportation inspector and two years later he was advanced to chief clerk of the general manager, with headquarters at San Francisco. In 1932 he became assistant chief clerk of the joint office of the vice-president, operations, and general manager, with the same headquarters, and in 1938 he was promoted to assistant superintendent of the Western division. In

R. E. Hallawell

the same year he was appointed manager of the Interurban Electric (a subsidiary of the S. P.), and in 1942 he was appointed assistant superintendent of the Sacramento division, being transferred to the Los Angeles division in the same year. In September of the same year he was advanced to the position he held at the time of his new appointment.

H. S. Whited has been appointed superintendent dining cars of the Seaboard Air Line, with headquarters at Washington, D. C. He replaces **E. M. Tucker,** who has been assigned to other duties.

C. E. Miller has been appointed assistant superintendent, South Carolina division, of the Seaboard Air Lines, at Savannah, Ga. He succeeds **L. F. Branan,** transferred to the South Carolina division at Americus, Ga., to succeed **C. M. Lanham,** who has been granted leave of absence.

C. H. Neill, assistant trainmaster of the Salt Lake division of the Southern Pacific, has been promoted to trainmaster, with headquarters at Carlin, Nev., succeeding **D. W. Tanner,** who has been transferred to Ogden, Utah, replacing **W. C. Hughes,** who has been transferred to Klamath Falls, Ore.

W. H. Mapp, trainmaster of the Pennsylvania-Reading Seashore and the Atlantic division of the Pennsylvania, has been appointed passenger trainmaster of the Long Island, with headquarters at Jamaica, L. I. Mr. Mapp succeeds **Sidney Kerl,** who has been appointed superintendent of the Washington Terminal Company at Washington, D. C.

H. R. Williams, supervisor of merchandise service of the Southern Pacific, with headquarters at San Francisco, Calif., has been advanced to assistant superintendent of transportation, with the same headquarters, succeeding **F. E. Kalbaugh,** whose promotion to assistant superintendent of the Western division was reported in the *Railway Age* of January 29. **J. M. Sherbourne,** assistant supervisor of merchandise service, has been promoted to supervisor of merchandise service, with headquarters as before at San Francisco, replacing Mr. Williams. **G. E. Skillicorn,** terminal supervisor, with headquarters at San Francisco, has been advanced to terminal superintendent of the Coast division, and **R. R. Badgley,** trainmaster of the Shasta division, has been promoted to terminal supervisor, with headquarters at San Franisco, relieving Mr. Skillicorn.

L. R. Knott, secretary of the Transportation Section and the Freight Station Section of the Association of American Railroads, with headquarters at Chicago, has been promoted to executive vice-chairman of the Operating-Transportation division, with the same headquarters. Mr. Knott will also assume the duties of secretary of that division. **H. A. Eaton,** assistant secretary of the Transportation Section, has been advanced to secretary of the Transportation Section, with headquarters as before at Chicago, succeeding Mr. Knott, and **N. Kaplan,** assistant secretary of the Freight Station Section at Chicago, has been promoted to secretary of the Freight Station Section, also succeeding Mr. Knott.

J. H. Bradford has been appointed assistant superintendent, Monongah division, of the Baltimore & Ohio, with headquarters at Grafton, W. Va.

H. E. Earle, acting superintendent of the St. Johnsbury & Lake Champlain, the Montpelier & Wells River, and the Barre & Chelsea, has been appointed to the position of superintendent.

TRAFFIC

T. R. Mappes has been appointed general agent of the St. Louis-San Francisco with headquarters at Washington, D. C.

George D. LeBlanc, district passenger agent of the Canadian National at Moncton, N. B., has retired from the position after a service of more than 45 years.

Arthur B. Murphey, assistant general freight agent of the Toledo, Peoria & Western, with headquarters at Chicago, has been promoted to general freight agent, with headquarters at Peoria, Ill., succeeding **John E. Corfield,** whose death on February 10 is reported elsewhere in these columns. **McNair W. Hulse,** assistant general freight agent at Peoria, has been transferred to Chicago, replacing Mr. Murphey.

Oris A. Vinyard, division freight agent of the Southern, with headquarters at St. Louis, Mo., has been promoted to assistant general freight agent, with the same headquarters, a newly-created position. **William C. Richardson,** district freight agent at New York, has been advanced to division freight agent, with headquarters at St. Louis, succeeding Mr. Vinyard.

Walter H. Lodge has been appointed general freight and passenger agent of the Boston & Maine and the Maine Central with headquarters at New York. **Victor J. Tario** has been named general agent with the same headquarters.

H. C. Byrd has been appointed assistant general traffic agent of the Norfolk Southern, at Atlanta, Ga., succeeding **W. V. Saggus,** who has been promoted to the position of general traffic agent at Augusta, Ga.

G. A. Donlevy, district freight agent of the Lehigh Valley at Philadelphia, Pa., has been appointed assistant general freight agent at that address, and **A. K. Thomas** has been named to succeed Mr. Donlevy as district freight agent.

ENGINEERING & SIGNALING

L. H. Hornsby, engineer of bridges of the Seaboard Air Line has been appointed bridge engineer—maintenance, and **W. N. Downey** is named engineer of bridges in charge of the bridge department. Both officers have headquarters at Norfolk, Va.

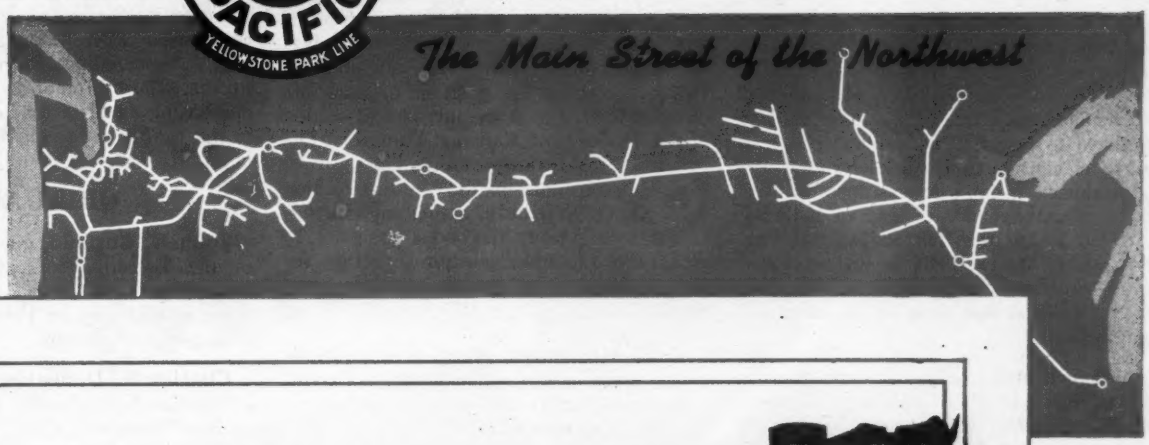
Victor R. Walling, whose promotion to assistant chief engineer of the Chicago & Western Indiana and of the Belt Railway of Chicago, with headquarters at Chicago

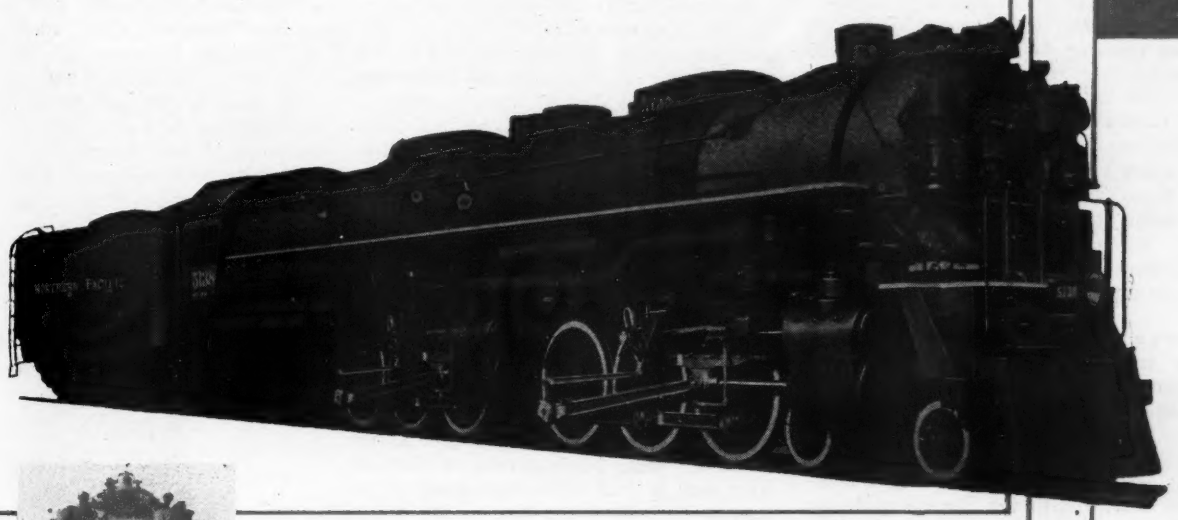
Victor R. Walling

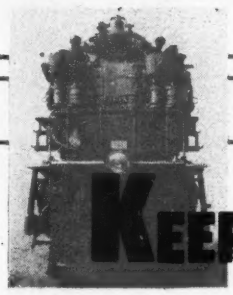
was reported in the *Railway Age* of March 4, was born at Tripoli, Iowa, on May 2, 1880, and graduated from Kansas University in 1901. He entered railway service in June, 1901, as a draftsman for the Canane Consolidated Copper Company's railway

News Department continued on next left-hand page

NORTHERN PACIFIC
YELLOWSTONE PARK LINE







KEEPING PACE *with the* NATION'S NEEDS

Alco, in 1943, received an order from the Northern Pacific—"The Main Street of the Northwest"—for eight 4-6-6-4 type single-expansion articulated locomotives. Upon the completion of this order, Alco will have delivered 48 of these modern high-powered 4-6-6-4 type locomotives to this road—all delivered since 1936.

Buy War Bonds

Locomotive Characteristics

Weight on Drivers	440,000 Lb.	Boiler Pressure	260 Lb.
Weight of Engine	644,000 Lb.	Tractive Power	106,900 Lb.
Cylinders (Four)	23 x 32 Ins.	Tender Capacity—Fuel	27 Tons
Diameter of Drivers	70 Ins.	Tender Capacity—Water	25,000 Gals.

Alco

AMERICAN LOCOMOTIVE

MANUFACTURERS OF MOBILE POWER

STEAM, DIESEL AND ELECTRIC LOCOMOTIVES, MARINE DIESELS, TANKS, GUN CARRIAGES & OTHER ORDNANCE

Cananea, Sonora, Mex., later serving as an instrumentman on the Southern Pacific, and on January 15, 1903, returning to the Cananea Consolidated as first assistant engineer. On March 1, 1907, he was advanced to chief engineer and on August 12, 1907, to superintendent and chief engineer. On June 20, 1912, Mr. Walling went with the Chicago & Western Indiana as first assistant engineer, with headquarters at Chicago, and three years later he was promoted to principal assistant engineer in charge of construction, track elevation and maintenance. In 1933 he was appointed engineer of maintenance of way of both the C. & W. I. and the Belt Railway of Chicago, and in March, 1940, he was advanced to superintendent of both roads, the position he held at the time of his new appointment.

R. E. Farmer has been appointed division engineer of the Laurentian division, Canadian Pacific, not Canadian National, as was reported in the *Railway Age* of March 4.

E. L. Exley, division engineer of the Baltimore & Ohio at Cumberland, Md., has been appointed engineer, maintenance of way, at Baltimore, Md., succeeding **C. B. Harveson,** who has been named chief engineer, maintenance of way. Mr. Harveson replaces **Philip Petri,** who has retired from the position after 44 years of service.

George R. Doull has been appointed bridge engineer, Atlantic region, of the Canadian National, succeeding **Casimir S. G. Rogers,** who has retired from that position. Mr. Rogers was born at Niagara Falls, Ont., in 1877, and was graduated from Queen's University. He began engineering service with the Dominion Bridge Company at Montreal, Que., and in 1916 went overseas on active service in World War I, attaining the rank of major as assistant controller of labor on the British General Headquarters staff. After being demobilized he served for a year on the Grand Trunk Arbitration Board as inspecting bridge engineer, and then joined the Canadian Northern in the same capacity at Toronto. In 1921 he was transferred to Moncton, N. B., as bridge engineer, a position which he held until his recent retirement.

MECHANICAL

F. J. Garner has been appointed master mechanic of the Alabama, Tennessee & Northern.

C. F. Schwartz has been appointed master mechanic of the Erie at Avoca, Pa., succeeding **F. D. Dunton,** who has been granted a leave of absence to accept a commission in the United States Army.

Samuel B. Schenk, special engineer of the Bessemer & Lake Erie, has been appointed assistant engineer motive power and the position of special engineer has been abolished. Mr. Schenk succeeds **Roy C. Beaver,** who has replaced **Harry D. Webster** as engineer motive power. Mr. Webster has resigned in that capacity after 33 years in the service of the Bessemer & Lake Erie. **Charles C. Richardson,** assistant to superintendent motive power, has retired after serving 53 years, and the position of assistant to superintendent motive power has been discontinued.

C. J. Wolfe, superintendent motive power of the Western Maryland with headquarters at Hagerstown, Md., who was granted leave of absence on September 15, 1942, to assume the position of associate director in charge of the mechanical section of the Division of Railway Transport, Office of Defense Transportation, has returned to his former post on the Western Maryland. **G. O. Willhide,** acting superintendent motive power, has been assigned to other duties and the position of acting superintendent motive power has been abolished.

E. E. Hinchman, assistant superintendent of motive power of the Southern Pacific, with headquarters at Sacramento, Calif., has been promoted to superintendent of motive power, with headquarters at Los Angeles, Calif., succeeding **O. B. Schoenky,** who has retired after 51 years' service.

Mr. Schoenky was born at St. Louis, Mo., on March 25, 1875, and entered railway service in 1897 as an apprentice of the Missouri Pacific at St. Louis. Later he served as a draftsman and finisher of the American Car & Foundry Co., at St. Charles, Mo., and draftsman of the Pullman Company, at Pullman, Ill., and Buffalo, N. Y. In 1901 he went with the Southern Pacific as a draftsman, with headquarters at Sacramento, subsequently serving as chief car draftsman, general foreman and shop superintendent, with the same headquarters. In 1917 Mr. Schoenky was promoted to master mechanic, with headquarters at Tucson, Ariz., and in 1925 he was advanced to the position he held at the time of his retirement.

SPECIAL

R. S. Caird, assistant general passenger agent of the Chicago, Burlington & Quincy, with headquarters at Chicago, has been appointed passenger traffic manager of the Burlington Transportation Company (subsidiary of the Burlington), with the same headquarters, succeeding **William Tanzer,** whose death on February 23 was reported in the *Railway Age* of February 26.

PURCHASES AND STORES

S. W. Shafer has been appointed assistant purchasing agent of the Central of New Jersey with headquarters at New York.

B. A. Cumbea has been appointed district storekeeper of the Chesapeake & Ohio, with headquarters at Richmond, Va. He succeeds **F. G. Hawes,** who has been named assistant to general storekeeper at Huntington, W. Va., replacing **W. L. Monning,** deceased.

F. J. Carrol, fuel assistant of the New York, New Haven & Hartford, has been appointed assistant purchasing agent. **C. H. McGill,** assistant general storekeeper, has been appointed general storekeeper succeeding **F. L. Foley,** newly appointed manager of stores. **C. R. Painter,** purchasing agent, has been named general purchasing agent. All four have headquarters at New Haven, Conn.

A. F. Cummings has been appointed assistant purchasing agent of the Delaware & Hudson with headquarters at Albany, N. Y., succeeding **Raymond D. Cummings,** whose promotion to the position of purchasing agent of that road was reported in the *Railway Age* of March 4.

OBITUARY

John E. Corfield, general freight agent of the Toledo, Peoria & Western, with headquarters at Peoria, Ill., died at his home in that city on February 10 after an illness of five months.

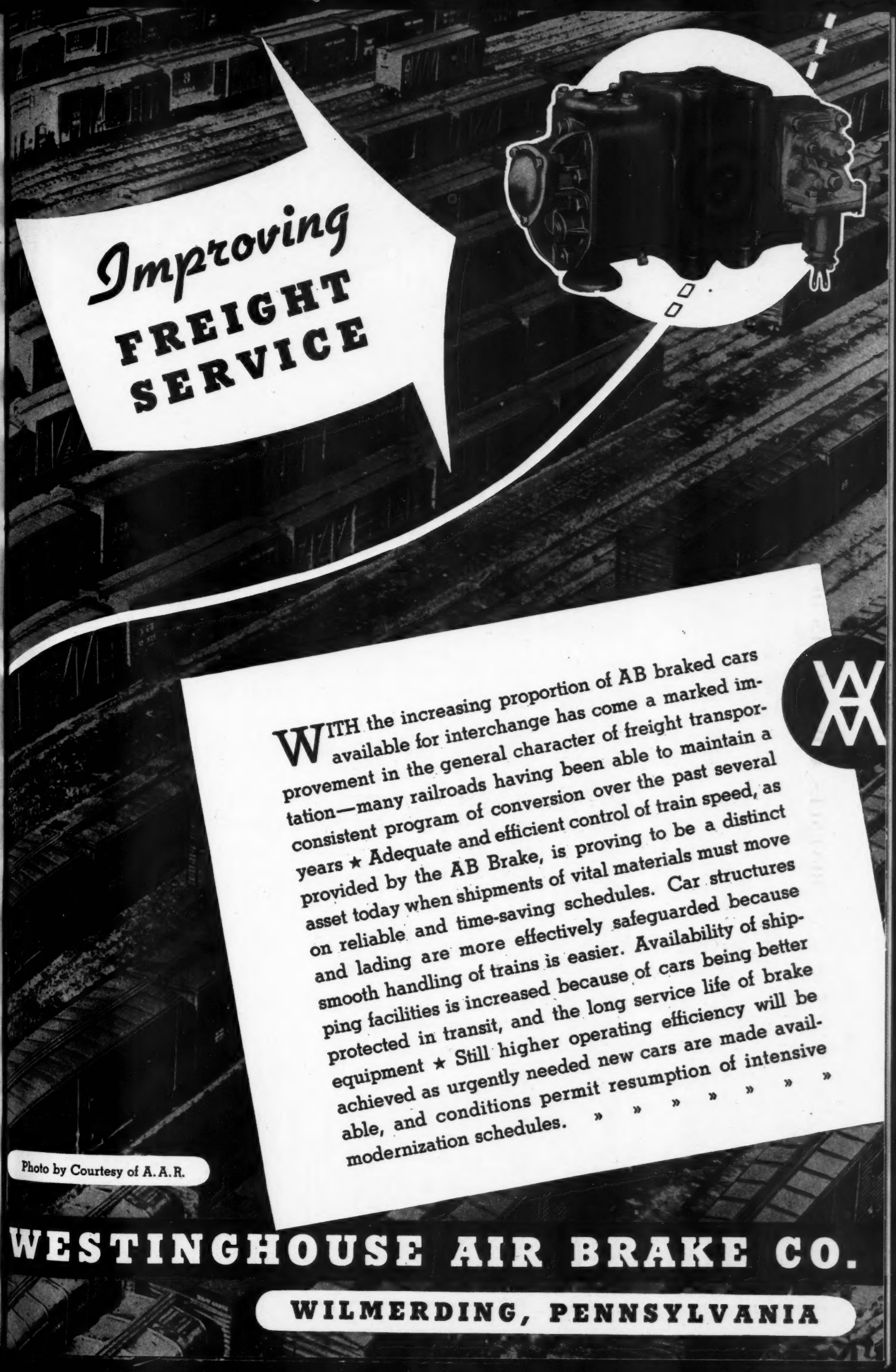
Charles F. Donnatin, general manager of the Southern Pacific, with headquarters at San Francisco, Calif., died suddenly at that city on February 23. Mr. Donnatin was born at Oakland, Calif., on March 22, 1879, and entered railway service in 1892 as a clerk in the Southern Pacific stores department at Los Angeles, Calif. He later served consecutively in station service as telegraph operator, timekeeper, brakeman,

C. F. Donnatin

switchman, conductor, yardmaster, trainmaster and assistant superintendent of the Los Angeles division at Los Angeles. Mr. Donnatin was promoted to superintendent of the San Joaquin division with headquarters at Bakersfield, Calif., in November, 1921, and three years later he was transferred to the Salt Lake division with headquarters at Ogden, Utah. On January 1, 1931, he was transferred to the Los Angeles division, with headquarters at Los Angeles, and on July 1, 1939, he was promoted to assistant general manager, with headquarters at San Francisco. On April 1, 1942 he was advanced to the position he held at the time of his death.

SOUVENIRS are for sale on all main-line trains of the Canadian National, and it is reported that the demands well exceed the supply of odds and ends. Servicemen, particularly, like to buy some knick-knack marking the highlights of the journey. observes the C. N. R.

Table of Revenues and Expenses appears on next left-hand page



WITH the increasing proportion of AB braked cars available for interchange has come a marked improvement in the general character of freight transportation—many railroads having been able to maintain a consistent program of conversion over the past several years ★ Adequate and efficient control of train speed, as provided by the AB Brake, is proving to be a distinct asset today when shipments of vital materials must move on reliable and time-saving schedules. Car structures and lading are more effectively safeguarded because smooth handling of trains is easier. Availability of shipping facilities is increased because of cars being better protected in transit, and the long service life of brake equipment ★ Still higher operating efficiency will be achieved as urgently needed new cars are made available, and conditions permit resumption of intensive modernization schedules. » » » » » » »

Photo by Courtesy of A.A.R.

WESTINGHOUSE AIR BRAKE CO.

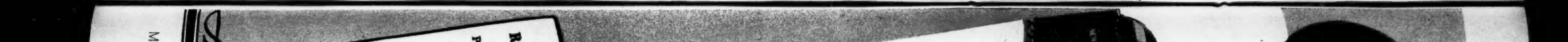
WILMERDING, PENNSYLVANIA

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JANUARY OF CALENDAR YEAR 1944

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1944	Net railway operating income 1943
Akron, Canton & Youngstown	Jan.	171	$357,544	$101	$370,742	$55,774	$34,772	$16,919	$104,799	$233,380	62.1	$140,362	$95,895	$79,555	$60,748
Alton	Jan.	959	1,897,029	697,577	2,905,180	261,737	408,432	66,067	1,033,793	1,890,252	65.1	1,014,928	647,229	420,483	576,500
Atchison, Topeka & Santa Fe System	Jan.	13,124	26,163,942	8,940,692	37,977,018	3,892,677	6,380,063	595,114	10,990,519	22,445,940	59.1	15,531,078	4,181,131	3,974,760	4,985,742
Atlanta & West Point	Jan.	93	253,433	159,585	455,683	47,597	57,228	9,082	158,223	290,209	63.7	165,474	59,146	31,734	40,370
Western of Alabama	Jan.	133	253,960	157,398	446,067	38,942	59,157	10,022	156,420	281,377	63.1	164,690	56,760	48,130	58,456
Atlanta, Birmingham & Coast	Jan.	639	548,551	44,772	622,800	95,519	102,832	32,405	224,483	476,482	76.5	146,318	62,822	29,456	82,867
Atlantic Coast Line	Jan.	4,962	8,701,879	3,754,611	13,355,914	1,069,382	1,808,937	198,255	3,782,865	7,246,993	54.3	6,108,921	1,858,921	1,339,260	1,749,907
Charleston & Western Carolina	Jan.	343	328,919	11,685	351,840	51,922	57,593	10,277	120,803	246,825	70.2	105,015	50,015	48,257	78,618
Baltimore & Ohio	Jan.	6,143	23,700,681	3,589,365	28,864,914	3,755,572	6,258,092	411,088	10,564,704	22,050,717	76.4	6,814,197	3,713,904	3,113,980	4,813,368
Staten Island Rapid Transit	Jan.	24	272,031	103,495	383,090	30,316	25,865	1,162	113,811	195,233	51.0	187,857	115,639	109,319	82,749
Bangor & Aroostook	Jan.	602	843,960	68,149	945,827	115,735	111,127	6,106	233,964	497,761	52.6	448,066	169,062	174,599	179,024
Bessemer & Lake Erie	Jan.	214	925,276	1,571	942,472	143,648	710,961	12,773	275,217	1,179,828	125.2	—237,356	—295,640	—60,126	—174,206
Boston & Maine	Jan.	1,819	4,649,871	1,492,523	6,832,132	1,128,606	1,268,370	72,604	2,832,731	5,541,205	81.1	1,290,927	745,099	463,867	838,902
Burlington, Rock Island	Jan.	228	105,658	58,123	177,279	23,957	18,184	2,985	62,461	123,004	69.4	54,275	45,521	24,651	39,161
Cambria & Indiana	Jan.	35	167,829	.....	167,913	7,937	46,402	797	20,342	83,437	49.7	84,476	—8,210	73,704	30,739
Canadian Pacific Lines in Maine	Jan.	234	553,550	100,024	683,766	38,060	85,449	6,744	182,278	327,179	47.8	356,587	334,150	287,644	112,407
Canadian Pacific Lines in Vermont	Jan.	90	96,562	13,303	122,063	26,119	33,462	2,443	98,188	166,964	136.8	—44,901	—53,756	—86,675	—58,893
Central of Georgia	Jan.	1,815	2,231,219	748,595	3,295,658	374,063	435,736	73,870	1,206,483	2,233,113	67.8	1,062,545	617,637	547,446	601,083
Central of New Jersey	Jan.	655	3,927,028	574,663	4,805,307	501,987	977,730	45,224	2,254,295	3,935,216	81.9	870,091	416,141	132,042	379,982
Central Vermont	Jan.	422	631,551	72,000	759,245	92,367	104,034	9,978	326,245	558,123	73.5	201,122	156,092	106,142	76,788
Chesapeake & Ohio	Jan.	3,073	15,075,937	1,889,418	17,500,422	1,986,905	3,157,851	247,148	4,707,488	10,670,875	61.0	6,829,547	2,389,331	2,809,746	3,009,015
Chicago & Eastern Illinois	Jan.	912	1,850,917	604,688	2,712,679	305,224	482,573	63,754	1,051,883	2,010,304	74.1	702,375	478,375	216,862	367,942
Chicago & Illinois Midland	Jan.	131	499,354	1,333	529,066	74,100	100,002	26,780	149,905	377,973	71.4	151,093	62,123	67,948	83,495
Chicago & North Western	Jan.	8,101	9,019,234	2,641,960	13,052,575	1,713,448	2,429,264	206,939	4,702,514	9,529,166	73.0	3,523,409	2,071,485	2,108,145	1,713,080
Chicago, Burlington & Quincy	Jan.	8,991	14,589,147	3,324,984	19,497,576	2,234,210	2,544,608	265,296	5,081,381	10,685,909	54.8	8,811,667	2,865,709	2,533,651	3,233,698
Chicago Great Western	Jan.	1500	2,022,772	230,510	2,459,202	329,273	317,729	63,075	917,487	1,698,067	69.0	761,135	423,459	275,594	268,983
Chicago, Indianapolis & Louisville	Jan.	541	920,295	98,151	1,109,599	104,581	188,472	30,774	368,791	732,293	66.0	377,306	272,126	222,886	227,892
Chicago, Milwaukee, St. Paul & Pacific	Jan.	10,742	14,526,579	2,433,772	18,523,213	2,250,074	2,638,542	251,152	6,228,350	12,033,964	65.0	6,489,249	3,088,249	2,940,188	3,581,014
Chicago, Rock Island & Pacific	Jan.	7,751	9,964,062	3,416,595	14,483,088	1,444,337	2,116,059	335,500	4,522,647	9,021,435	62.3	5,461,653	2,512,043	2,102,142	3,554,158
Chicago, St. Paul, Minneapolis & Omaha	Jan.	1,617	1,751,575	344,339	2,295,996	287,673	336,143	41,964	986,446	1,732,908	75.5	563,088	351,687	312,445	244,789
Clinchfield	Jan.	302	1,234,390	10,830	1,255,419	81,096	167,827	21,695	259,749	552,055	44.0	703,364	577,078	579,962	534,636
Colorado & Southern	Jan.	748	854,715	292,121	1,250,231	113,260	230,493	15,792	402,928	811,564	64.9	438,667	275,830	229,340	257,301
Fort Worth & Denver City	Jan.	804	663,928	471,981	1,242,070	172,564	135,652	23,771	326,451	706,679	56.9	535,391	309,784	269,505	211,755
Colorado & Wyoming	Jan.	42	92,955	.....	154,825	7,876	14,899	686	59,131	87,028	56.2	67,797	23,980	23,149	23,910
Columbus & Greenville	Jan.	168	103,803	11,271	126,080	20,378	17,444	4,078	43,459	99,561	79.0	26,519	9,627	10,975	12,736
Delaware & Hudson	Jan.	848	4,149,384	199,619	4,453,801	408,980	1,015,718	44,143	1,487,366	3,081,270	69.2	1,372,531	1,156,461	1,163,951	497,761
Delaware, Lackawanna & Western	Jan.	973	4,958,366	850,249	6,432,914	609,845	1,064,309	115,684	2,915,626	4,887,599	76.0	1,545,315	662,315	569,932	617,733
Denver & Rio Grande Western	Jan.	2,399	4,642,514	783,289	5,666,470	571,626	1,101,412	94,038	1,801,488	3,766,568	66.5	1,899,902	1,209,771	1,105,019	1,737,451
Denver & Salt Lake	Jan.	232	282,560	8,144	300,942	33,988	59,990	2,536	100,348	208,310	69.2	92,632	62,840	112,076	126,192
Detroit & Mackinac	Jan.	230	53,805	8,987	71,982	12,489	17,640	772	29,746	64,604	89.8	7,378	3,307	2,372	9,776
Detroit & Toledo Shore Line	Jan.	50	429,509	.....	430,767	32,094	27,437	9,096	110,054	187,447	43.5	243,320	125,218	66,114	75,208
Detroit, Toledo & Ironton	Jan.	464	916,198	1,125	968,868	81,266	120,505	15,726	225,183	467,415	48.2	501,453	294,488	274,381	213,789
Duluth, Missabe & Iron Range	Jan.	544	105,452	5,498	148,423	310,058	527,295	4,297	239,902	1,124,615	757.7	—976,192	—1,040,708	—1,018,850	—846,590
Duluth, Winnipeg & Pacific	Jan.	175	247,000	2,100	253,900	30,842	31,849	2,007	116,033	184,689	72.7	69,211	51,494	18,598	31,556
Elgin, Joliet & Eastern	Jan.	392	2,446,951	1	2,819,597	238,521	756,947	15,745	1,035,241	2,112,512	74.9	707,085	374,528	284,261	129,755

(Table continued on next left-hand page)



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Cylinder Liners and Pistons
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HUNT-SPILLER GUN IRON
Air Furnace

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JANUARY OF CALENDAR YEAR 1944—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1944	1943
Erie	Jan.	2,244	$11,231,674	$858,673	$12,904,467	$1,098,770	$2,314,467	$222,742	$5,090,015	$9,153,817	70.9	$3,750,650	$1,835,144	$1,234,459	$1,635,305
Florida East Coast	Jan.	682	1,621,704	1,221,047	3,076,006	303,592	281,468	45,992	784,426	1,536,089	49.9	1,539,917	1,027,709	916,993	671,604
Georgia Railroad	Jan.	329	612,257	143,508	796,892	85,625	110,776	22,048	307,162	546,382	68.6	250,510	218,811	221,309	382,067
Georgia & Florida	Jan.	408	185,148	6,402	196,264	46,278	22,388	10,359	57,492	143,303	73.0	52,961	43,345	32,281	20,666
Grand Trunk Western	Jan.	1,026	2,554,000	278,000	3,001,000	449,031	492,723	35,844	1,128,380	2,212,575	73.7	788,425	521,416	490,837	697,507
Canadian National Lines in New England	Jan.	172	130,000	7,900	157,800	38,833	38,282	2,327	91,478	197,296	125.0	—39,496	—60,941	—93,663	—95,501
Great Northern	Jan.	8,374	10,996,902	1,491,395	13,517,738	2,154,875	2,926,494	208,321	4,318,027	10,087,455	74.6	3,430,283	1,309,855	1,306,647	1,659,282
Green Bay & Western	Jan.	234	232,753	534	240,943	53,187	27,899	8,981	62,717	161,466	67.0	79,477	45,239	40,989	52,132
Gulf & Ship Island	Jan.	259	117,775	40,222	179,411	44,816	19,913	2,573	93,460	172,127	95.9	7,284	—12,241	—25,261	40,725
Gulf, Mobile & Ohio	Jan.	1,973	2,616,632	207,665	2,926,246	452,754	526,094	89,749	834,228	2,025,158	69.2	901,088	466,308	347,806	496,606
Illinois Central	Jan.	4,823	13,868,685	2,809,009	17,769,602	2,230,626	3,174,762	211,497	5,372,140	11,605,614	65.3	6,163,988	2,439,427	2,124,493	2,821,983
Yazoo & Mississippi Valley	Jan.	1,524	2,049,443	376,686	2,588,719	367,362	350,120	34,103	969,038	1,812,843	70.0	775,876	404,910	301,477	715,244
Illinois Central System	Jan.	6,347	15,918,128	3,185,695	20,358,321	2,597,988	3,524,882	245,600	6,341,178	13,418,457	65.9	6,939,864	2,841,864	2,426,883	3,542,140
Illinois Terminal	Jan.	476	672,750	165,370	915,366	84,960	93,188	20,131	286,288	511,117	55.84	404,249	165,424	138,729	112,463
Kansas City Southern	Jan.	878	2,684,550	471,714	3,355,976	516,697	515,173	64,397	996,775	2,231,184	66.5	1,124,792	516,792	318,224	570,852
Kansas, Oklahoma & Gulf	Jan.	328	326,182	1,500	331,257	20,823	24,495	9,764	83,057	149,538	45.1	181,719	100,464	77,629	98,688
Lake Superior & Ishpeming	Jan.	156	36,174	107	39,099	24,447	44,664	661	29,932	107,714	275.5	—68,615	—97,113	—89,293	—82,245
Lehigh & Hudson River	Jan.	96	283,722	400	284,844	39,066	34,716	4,893	87,600	174,490	61.3	110,354	46,326	25,868	25,134
Lehigh & New England	Jan.	190	481,405	.....	483,912	41,916	117,589	7,008	143,439	328,835	68.0	155,077	84,869	90,688	81,784
Lehigh Valley	Jan.	1,260	6,371,394	653,934	7,425,836	948,135	1,358,826	126,451	3,103,923	5,749,800	77.4	1,676,036	1,000,884	679,558	983,492
Louisiana & Arkansas	Jan.	834	1,582,945	168,853	1,813,697	341,709	171,690	34,349	362,445	973,221	53.7	840,476	280,699	214,623	231,596
Louisville & Nashville	Jan.	4,745	12,786,224	3,669,355	17,512,133	1,671,187	2,869,364	205,519	5,553,251	10,851,469	62.0	6,660,664	1,799,350	2,035,681	1,960,845
Maine Central	Jan.	991	1,251,547	247,676	1,611,244	345,330	269,004	12,549	627,577	1,299,701	80.7	311,543	187,574	133,397	247,725
Midland Valley	Jan.	334	159,905	26	162,372	16,287	13,648	2,613	49,435	87,058	53.6	75,314	37,195	26,281	70,528
Minneapolis & St. Louis	Jan.	1,408	1,203,033	35,041	1,285,429	203,640	180,242	77,845	377,866	898,709	69.9	386,720	197,560	193,866	299,018
Minneapolis, St. Paul & Sault Ste. Marie	Jan.	4,277	3,554,211	211,572	4,019,889	515,057	59,858	722,952	69,568	1,575,506	74.8	1,011,948	672,463	607,785	136,758
Duluth, South Shore & Atlantic	Jan.	551	296,192	24,826	340,775	56,673	57,587	8,586	137,414	267,810	78.6	72,965	52,340	49,683	21,972
Spokane International	Jan.	152	154,087	8,323	170,654	52,289	13,909	3,441	51,121	127,293	74.6	43,361	28,724	16,177	27,943
Mississippi Central	Jan.	158	151,546	5,041	159,125	23,272	15,417	8,527	52,824	106,900	67.2	52,225	33,095	23,867	30,228
Missouri & Arkansas	Jan.	365	161,423	2,897	177,623	43,698	17,950	7,506	64,461	140,231	78.9	37,392	25,283	7,759	6,479
Missouri-Illinois	Jan.	172	255,910	1,760	258,900	48,064	34,358	3,339	61,475	154,389	59.6	104,511	42,482	36,213	41,243
Missouri-Kansas-Texas Lines	Jan.	3,293	4,685,635	1,083,959	6,251,665	1,083,046	830,857	133,052	1,953,599	4,231,507	67.7	2,020,158	1,147,560	783,324	921,808
Missouri Pacific	Jan.	7,096	14,013,871	3,531,307	18,887,717	1,846,273	2,521,326	276,755	5,379,284	10,549,960	55.6	8,337,757	3,739,468	2,956,472	4,523,411
Gulf Coast Lines	Jan.	1,734	3,633,001	340,614	4,124,812	515,991	337,538	53,694	972,998	1,972,862	47.83	2,151,950	977,494	622,175	488,470
International Great Northern	Jan.	1,110	1,673,056	478,690	2,382,117	369,241	305,468	36,671	776,320	1,591,530	66.8	790,587	449,604	301,796	449,070
Monongahela	Jan.	170	569,982	1,724	574,920	63,773	49,962	760	150,412	268,484	46.7	306,436	202,463	116,093	133,376
Montour	Jan.	51	224,510	.....	226,398	16,286	65,711	876	73,151	164,410	72.6	61,988	11,893	49,175	63,969
Nashville, Chattanooga & St. Louis	Jan.	1,072	2,462,796	695,735	3,481,180	504,779	725,451	85,458	1,158,052	2,574,682	74.0	906,498	503,435	469,247	683,869
New York Central	Jan.	10,746	37,909,926	13,644,136	57,642,173	7,905,699	11,003,924	700,410	21,929,711	43,770,373	75.9	13,871,800	6,771,078	4,885,346	6,937,484
Pittsburgh & Lake Erie	Jan.	229	2,645,060	99,732	2,838,712	313,402	942,147	43,414	932,781	2,339,107	82.4	499,605	—188,880	408,358	536,455
New York, Chicago & St. Louis	Jan.	1,688	7,610,212	298,655	8,074,261	786,541	1,228,634	144,798	2,668,583	5,042,585	62.5	3,031,676	1,382,491	874,454	1,094,731
New York, New Haven & Hartford	Jan.	1,838	7,675,687	5,539,825	14,454,106	1,724,892	2,174,823	173,123	5,426,597	10,207,228	70.6	4,246,878	2,766,056	1,743,514	2,423,272

(Table continued on next left-hand page)

Reliance HY-CROME Spring Washers

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JANUARY OF CALENDAR YEAR 1944—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1944	1943
New York Connecting	Jan.	21	$208,750	.....	$241,695	$52,447	$18,153	.....	$45,935	$118,102	48.9	$123,593	$74,667	$161,139	$147,773
New York, Ontario & Western	Jan.	546	644,866	$20,336	727,690	86,427	143,364	$22,476	411,472	689,417	94.7	38,273	2,483	—25,930	—79,357
New York, Susquehanna & Western	Jan.	120	460,350	33,540	509,379	32,790	44,466	4,470	185,962	284,291	55.8	225,088	150,358	73,811	69,735
Norfolk & Western	Jan.	2,154	11,385,116	1,376,264	13,145,587	1,370,862	2,687,933	162,861	3,148,703	7,683,423	58.4	5,462,164	1,305,852	2,068,968	2,050,902
Norfolk Southern	Jan.	728	576,473	30,273	629,946	149,850	82,054	29,829	239,610	531,372	84.4	98,574	57,736	35,422	69,991
Northern Pacific	Jan.	6,867	8,918,669	1,658,457	11,628,183	1,619,194	2,413,438	170,709	3,709,165	8,472,070	72.9	3,156,113	1,126,147	1,569,576	1,996,966
Northwestern Pacific	Jan.	331	412,955	13,963	447,928	187,392	67,580	1,716	148,673	411,549	91.9	36,379	8,429	—14,280	60,132
Oklahoma City-Ada-Atoka	Jan.	132	132,020	363	133,547	15,096	3,993	1,407	30,040	55,489	41.6	78,058	43,292	29,576	19,865
Pennsylvania	Jan.	10,112	52,803,385	21,033,298	79,533,293	8,989,432	15,276,592	1,102,762	33,303,005	61,448,244	77.3	18,085,049	6,214,959	5,612,837	6,978,437
Long Island	Jan.	376	1,018,080	1,947,840	3,144,846	555,512	523,538	10,111	1,596,438	2,741,364	87.2	403,482	119,599	—102,299	—187,469
Pennsylvania-Reading Seashore Lines	Jan.	392	427,244	200,525	660,312	148,858	103,104	7,370	430,040	712,720	107.9	—52,408	—144,693	—240,072	—150,413
Pere Marquette	Jan.	1,979	3,976,460	308,455	4,493,373	710,370	775,612	67,508	1,669,245	3,394,902	75.6	1,098,471	381,688	309,996	520,636
Pittsburg & Shawmut	Jan.	97	133,676	.....	134,435	22,908	25,112	1,542	38,043	92,622	68.9	41,813	25,471	23,245	15,313
Pittsburgh & West Virginia	Jan.	136	556,824	.....	576,262	85,177	122,519	19,958	141,670	396,500	68.8	179,762	104,464	137,991	136,945
Pittsburg, Shawmut & Northern	Jan.	190	116,402	.....	118,564	22,197	24,976	1,066	49,675	103,653	87.4	14,911	8,237	1,653	7,591
Reading	Jan.	1,416	8,173,235	828,902	9,419,992	927,745	1,811,954	79,668	3,506,008	6,531,843	69.3	2,888,149	1,323,866	1,047,507	1,360,914
Richmond, Fredericksburg & Potomac	Jan.	118	1,572,519	1,373,530	3,252,947	171,283	299,511	13,568	816,009	1,412,513	43.4	1,840,434	482,403	307,375	339,037
Rutland	Jan.	407	253,386	57,963	371,872	57,818	88,248	11,809	209,976	383,890	103.2	—12,018	—37,564	—37,458	—12,353
St. Louis-San Francisco	Jan.	4,659	6,327,148	1,953,653	8,957,101	1,087,627	1,692,604	163,286	3,049,091	6,334,398	70.7	2,622,703	1,645,297	1,659,109	1,553,746
St. Louis, San Francisco & Texas	Jan.	159	284,743	17,314	309,405	34,074	29,189	9,453	95,677	174,947	56.5	134,458	86,624	62,062	80,789
St. Louis Southwestern Lines	Jan.	1,607	4,528,607	274,189	4,935,222	576,117	531,197	97,933	1,358,197	2,683,873	54.4	2,251,349	922,364	631,343	614,961
Seaboard Air Line	Jan.	4,177	7,613,538	3,761,847	12,149,259	1,383,852	1,665,521	232,976	3,547,666	7,305,503	60.1	4,843,756	2,443,756	1,897,310	3,524,544
Southern Railway	Jan.	6,513	14,977,136	4,807,454	21,072,791	2,479,219	3,246,725	211,132	6,044,443	12,641,562	60.0	8,431,229	3,015,312	2,665,996	2,836,530
Alabama Great Southern	Jan.	315	1,231,980	487,816	1,822,894	153,609	281,565	26,564	513,947	1,028,564	56.4	794,330	227,083	175,630	174,314
Cincinnati, New Orleans & Texas Pacific	Jan.	337	2,066,557	629,008	2,850,264	305,186	678,018	35,671	854,836	1,959,188	68.7	891,076	254,464	341,988	407,281
Georgia Southern & Florida	Jan.	397	302,139	187,515	551,070	67,355	65,557	2,503	181,543	335,190	60.8	215,880	91,699	59,080	88,338
New Orleans & Northeastern	Jan.	204	777,142	191,090	1,018,606	138,004	123,249	14,943	330,218	642,186	63.0	376,420	172,115	71,630	111,768
Southern Pacific	Jan.	8,263	27,893,216	8,943,979	40,023,740	5,600,583	7,316,251	563,506	12,519,399	28,064,090	70.1	11,959,650	5,027,589	3,646,334	5,576,066
Texas & New Orleans	Jan.	4,341	8,470,454	2,421,748	11,538,285	1,306,567	1,158,476	147,997	2,835,604	5,825,476	50.5	5,712,809	2,069,900	1,537,709	2,367,586
Spokane, Portland & Seattle	Jan.	943	1,416,224	171,639	1,699,468	324,082	167,874	11,877	679,402	1,245,075	73.3	454,393	201,717	31,419	614,008
Tennessee Central	Jan.	286	363,547	74,490	460,874	99,970	59,389	7,110	137,990	322,751	70.0	138,123	101,452	81,551	36,315
Texas & Pacific	Jan.	1,884	4,198,700	1,704,006	6,512,731	817,908	1,034,491	107,374	1,540,275	3,770,226	57.9	2,742,505	725,280	549,521	676,340
Texas Mexican	Jan.	162	132,944	872	161,336	20,647	17,163	4,151	41,612	93,223	57.8	68,113	49,381	42,920	99,292
Toledo, Peoria & Western	Jan.	239	454,871	19	457,122	36,677	21,716	24,384	96,872	193,966	42.4	263,156	247,095	225,046	177,022
Union Pacific System	Jan.	9,782	28,137,904	7,126,812	38,233,412	5,174,296	7,846,568	626,054	12,040,355	27,505,971	71.9	10,727,441	3,258,358	2,362,464	2,919,492
Utah	Jan.	111	141,607	.....	141,634	16,391	43,400	488	41,536	106,325	75.1	35,309	18,811	14,669	18,294
Virginian	Jan.	657	2,558,728	7,789	2,638,722	233,190	536,375	24,515	556,711	1,414,096	53.6	1,224,626	549,626	621,604	661,743
Wabash	Jan.	2,393	6,417,095	868,263	7,686,229	863,507	974,520	175,933	2,549,463	4,823,663	62.8	2,862,566	1,081,785	746,841	866,997
Ann Arbor	Jan.	294	478,829	6,370	494,858	53,975	81,709	16,836	209,517	375,094	75.8	119,764	64,492	59,653	51,843
Western Maryland	Jan.	1,195	3,523,097	525,660	4,177,091	301,101	575,090	44,112	851,574	1,861,436	59.2	1,285,152	715,152	751,950	782,973
Western Pacific	Jan.	507	1,806,141	14	1,855,328	441,713	519,053	75,352	1,213,900	2,380,877	57.0	1,796,214	734,948	554,329	514,924
Wheeling & Lake Erie	Jan.	840	3,031,212	28,377	3,146,588	183,136	402,219	40,387	573,528	1,248,995	67.3	606,333	23,200	241,578	285,951